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SUMMARY
Draft
Air Quality
Management
Plan

OCTOBER 1978

Southern California Association
of Governments
600 So. Commonwealth Ave., Suite 1000
Los Angeles, Calif. 90005

South Coast Air Quality
Management District
9420 Telstar Avenue
El Monte, Calif. 91731



We are pleased to present the Summary of the Draft Air Quality Management Plan (AQMP) for your review, comment and approval. The Draft AQMP has been sent to all cities and counties in the South Coast Air Basin. The review period on the Draft Plan and Draft EIR will close on December 15, 1978. Only comments received by that date will be considered in preparing the Final Plan and EIR. We request that actions approving or disapproving the Plan be taken by your jursidiction and submitted by January 15, 1978.

This Plan has been prepared in response to Federal and State requirements. Failure to submit and implement an air quality plan could mean a loss of much of the region's Federal funds as a result of the sanctions in the Clean Air Act.

Before the Southern Californai Association of Governments (SCAG) and the South Coast Air Quality Management District (District) adopt the plan and transmit it to the California Air Resources Board (ARB) and the U.S. Environmental Protection Agency (EPA), local governments are asked to approve the plan. Approval of the Draft AQMP means that the jurisdiction (1) agrees the growth forecasts to be mitigated by the AQMP are those contained in the SCAG Development Guide, (2) supports the recommended measures in the plan or recommends substitute measures, (3) agrees to schedule adoption of local implementation measures and (4) recommends that SCAG and the District submit the plan to ARB and EPA.

The Draft AQMP recommends air quality policies relating to growth, sewage treatment plants, highways and air quality standards; reasonably available air pollution control measures for implementation before 1982; and measures to be studied by 1982 and implemented afterwards. We have had staff draw these recommendations from the comments on the Preliminary Draft AQMP which was published in August of this year. The preliminary plan presented the results of studying various control measures suggested by cities, and AQMP subregional agencies, the Districts' Advisory Council, the transportation commissions, the EPA, the ARB, and others. Even though some of these measures were not likely to be acceptable to this region, each measure was reviewed for its impact on our economy, our society, and on reducing air pollution emissions. Background material and details can be found in the pull plan (900 pages) and we have mailed a copy to your city through the offices of the chief administrative officer.

The Draft AQMP has been developed to meet air quality requirements while mitigating the impacts of growth in the region. If we can accomplish this goal, the imposition of federal sanctions required under the Clean Air

Act Amendments of 1977 can be avoided. These sanctions include reduced federal financial assistance to the region, as well as denial of permits for major new industrial applications. These actions, enforceable through citizens' suits, could cost the South Coast Air Basin upwards of one billion dollars a year. The document before you is designed to prevent such sanctions through a reasoned, cost conscious approach to meeting air quality standards while still permitting economic growth for our region.

An EIR has been prepared by an independent consultant. The EIR Summary is Chapter XV of the full plan. Copies are available on request.

We seek your approval and request your review and comment on this very important plan before it must be adopted. Additional information can be obtained from either the District (572-6377) or SCAG (385-1000) and from David Di Julio, Program Manager, AQMP, 600 South Commonwealth Avenue, Suite 1000, Los Angeles, California 90005.

Sincerely,

Al McCandless, Chairman
South Coast Air Quality
Management District

James H. Wilson, President
Southern California Association
of Governments

October, 1978

SOUTH COAST AIR BASIN

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CHAPTER I

SUMMARY

PREFACE

Air Pollution is a major public concern in Southern California. Oxidants, primarily ozone, are a more serious pollution problem here than anywhere else in the nation, yet no area has controlled more pollution sources over a longer period of time than has the South Coast Basin. Despite increasingly stringent controls, clean air of a quality sufficient to protect the health of all citizens continues to elude this Basin, as it does many urban areas of the country.

Certain conditions--ample sunlight, natural inversions, topography--make the South Coast Basin particularly susceptible to the kind of air pollution commonly known as "smog." Millions of people, attracted to the region because of this same sunshine and topography, add to the pollution problem through extensive driving to work and recreation areas.

How to clean the air has been addressed by the Congress, the state legislature, the boards of supervisors of the various counties and by regulatory agencies. At times their actions have appeared uncoordinated or aimed at conflicting goals. This Air Quality Management Plan (AQMP) presents a different approach, one that brings together in a comprehensive planning effort both air quality regulatory agencies and land use and transportation planning agencies and local governments. This plan has been developed in conjunction with other plans for transportation, water quality and regional development.

The South Coast Basin AQMP has assessed the variety of laws governing air quality planning and program implementation. The result is a plan which attempts to meet statutory requirements, focusing on the goal of protecting public health by meeting air quality standards. To do so, AQMP staff from Southern California Association of Governments (SCAG) and the South Coast Air Quality Management District (SCAQMD) with the assistance of cities and counties, Air Resources Board (ARB), California Department of Transportation, and the Environmental Protection Agency (EPA), have analyzed the underlying conditions affecting air quality. They set forth the baseline regulatory framework and emissions associated with this base, projected future population, housing, employment, industrial, and transportation growth; and assessed the emissions likely to result from this growth. Finally, they addressed a variety of proposals which would allow these emissions to be reduced to levels that meet clean air standards.

This document is based on the preliminary plan issued in August. It has been widely reviewed over the past two months. This evaluation process has resulted in adding, modifying and deleting tactics. Other reviewers have analyzed the emission reduction and cost estimates and many tactics have been modified to reflect their comments. In the text, Chapter II-VI are edited versions of the earlier draft except where noted in this summary. Chapters VII-XI have been modified to comply with the technical comments. The remaining chapters are completed versions of chapters that were only outlines in the preliminary draft.

This is a draft plan; the schedule for review and approval is listed in Table I. Tables II and III record the times and locations of public hearings and workshops where comments on the AQMP can be officially made. The plan will be adopted only after the public and their related officials have had an opportunity to review and approve the plan.

This summary highlights the recommended policies, strategies and tactics contained within the Plan. The costs and impacts, particularly on local governments are described in this summary. Summarized here, also, are the requirements for plan development, the baseline air quality, emissions inventory and control strategies against which the proposed plan was assessed.

AQMP goals and policies include attaining air quality health related standards, avoiding federal sanctions, offsetting the impacts of new growth and minimizing the costs and complexity of EIR's for local projects. For a listing of goals and policies included in the Plan, see Table IV.

A capsule summary of each chapter of the full AQMP is also in this in this Plan Summary.

Full AQMP Plans with appendices are available to the public at over 50 locations throughout the region (see Table XV for locations.) Copies of Chapter IX or the full plan can be attained by mailing the postcard on the back cover.

Table I
AQMP Review and Approval Schedule

October, 1978	- Release of Draft AQMP
	- Release of EIR. Office of Planning & Research begins review.
November, 1978	- SCAG workshops on AQMP, Transportation, Water Quality and Development Guide Plans (see Table II)
November 1, 1978	- Local Governments asked to approve AQMP by December 15, 1978
November 2, 1978	- SCAG Executive Committee transmits AQMP to District for public hearings
December 1-15, 1978	- SCAG/District Board hold hearings on final draft AQMP (see Table III)
December 15, 1978	- End Public Comment Period
January 4, 1979	- SCAG Executive Committee approves changes in the Draft AQMP based on comments received by December 15, 1978
January 5, 1979	- District Board approves changes in the Draft AQMP
January, 1979	- Conflicts resolved by Executive Committee/District Board.
January 31, 1979	- Deadline for District Board to adopt plan and submit it to State legislature, ARB, and EPA for their review and approval.
	- Deadline for SCAG Executive Committee to adopt plan and amend Regional Transportation Plan to include AQMP items. (Actual adoption date to be scheduled)
February, 1979	- Implementation by responsible agencies commences.
April, 1979	- ARB approves plan and submits it to EPA
July, 1979	- EPA approves plan

Table I
AQMP Review and Approval Schedule (Cont'd)

July, 1979	- SCAG and District revise Plan as based on Federal and State review
July, 1979	- Staff begins revising AQMP to meet 1982 requirements
July, 1979	- First Reasonable Further Progress Report submitted to EPA.

Table II

AQMP and Integrated Plan Public Workshops

November 11, 1978 Saturday 9:00 a.m. to 12:00 p.m.	Four Plan Workshop Los Angeles County (place to be announced)
November 15, 1978 Wednesday	Four Plan Workshop San Bernardino County (time and place to be announced)
November 15, 1978 Wednesday 7:30 p.m. to 9:30 p.m.	AQMP Workshop Pasadena Lung Assn. Circadian (Faculty Dining Room) Pasadena City College 1570 E. Colorado, Pasadena
November, 17, 1978 Friday, 10:00 a.m. to 1:00 p.m.	Costa Mesa Board of Realtors Newport Harbor 401 N. Newport Blvd. Newport Beach
	Four Plan Workshop Riverside County University of Riverside, Riverside (time and date to be announced)

TABLE III

AQMP PUBLIC HEARINGS

December 4, 1978 Monday, 9:30 a.m. to 4:00 p.m.	Los Angeles County Board of Supervisors Hearing Room 383 Hall of Administration 500 West Temple Street Los Angeles
December 6, 1978 Wednesday, 9:30 a.m. to 4:00 p.m.	San Bernardino County Board of Supervisors Hearing Room 175 West Fifth Street San Bernardino
December 8, 1978 Friday, 9:30 a.m. to 4:00 p.m.	West Covina City Council Chambers 1444 West Garvey Avenue West Covina
December 14, 1978 Thursday, 9:30 a.m. to 4:00 p.m.	Orange County Board of Supervisors Hearing Room 10 Civic Center Plaza, First Floor Santa Ana
December 15, 1978 Friday, 9:30 a.m. to 4:00 p.m.	Riverside County Board of Supervisors Hearing Room 4080 Lemon Street, 14th Floor Riverside

TABLE IV

AQMP GOALS AND POLICIES

Air Quality Planning

- To attain federal and state health standards at earliest achievable date.
- To attain federal welfare (plants and materials damages) related standards at the earliest achievable date.
- Attainment of all federal standards by 1987 are demonstration of good faith efforts to attain the state standards.
- Measures and dates relating to state standards which are different from federal standards are not part of the Federal or State Implementation Plan and failure to comply with state related measures cannot be enforced or sanctioned by the Federal Government.
- To determine and implement the most beneficial, feasible, socially acceptable and cost-effective measures for attaining standards.
- To plan for population and industrial growth in the region by offsetting the air pollution impacts of that growth.
- To minimize "project-by-project" review through conducting air quality analysis at the regional level instead of the project level, when possible.
- To permit jurisdictions within the AQMP Planning Area, in preparing an environmental impact report, to confine a project's air quality analysis to local impacts through referencing the AQMP for a demonstration that regional impacts have been offset.
- To avoid imposition of federal sanctions on the region by complying with the substantive and administrative planning requirements determined by the U.S. Environmental Protection Agency.
- To establish a policy that, should sanctions be imposed on the region as a whole for failure to implement the AQMP, these sanctions would not apply to jurisdictions or level of government which had adopted the AQMP and were implementing the provisions.

- o To achieve a more concentrated form of development through encouraging moderate densities within clusters and centers.
- o To avoid high densities.
- o To balance population and employment growth and discourage long commutes.
- o To avoid high recycle rates.
- o To recognize the Southern California preference for single family homes.
- o To avoid growth in environmentally significant areas (e.g., areas with slopes over 25%).

TRANSPORTATION

- o To develop for the region a transportation system compatible with the environment, using the available resources wisely, promoting the aesthetic beauty of the region, and avoiding undesirable environmental changes.
- o To develop a transportation system which will support the comprehensive goals of the region, taking into account the effect of mode selection, location, and time upon the physical, social, economic, and organizational environment.
- o to create a balanced transportation system integrated with planned land use to provide effective mobility for all people and efficient and economic movement of goods.
- o To minimize the need for long distance intraregional travel, particularly work trips, by guiding the development of the region to create self-sufficient metros, having balanced service facilities, employment, and housing.
- o To develop a transportation system that is financially, legally, and politically feasible, has broad public support, and has a commitment to its implementation by elected officials and those providing transportation services.
- o As the Metropolitan Planning Organization designaged under Section 134 of Title 23 of the United States Code, SCAG shall commit to the implementation of all adopted transportation control measures, and to the implementation of public transportation measures sufficient to meet basic transportation needs as defined above. This commitment shall be executed through exercise of A-95 review authority, and TIP review/approval authority to the extent authorized by state and federal statute.

- o The adopted Regional TIP Annual Element shall constitute the required commitment to implement and fund adopted transportation control and public transportation measures. In the case of such measures which have been previously programmed, implementation should be given priority and newly adopted measures should be phased into the TIP as expeditiously as possible.

- o For the purposes of the AQMP, all forms of multi-occupant vehicles and paratransit systems shall be considered "public transportation" if such vehicles or systems are supported directly or indirectly by public funds.

- o For the purposes of the AQMP the Regional Transit Development Program shall be assumed as the level of public transportation service required to meet basic transportation needs.

General Policies Relating to the Availability of Funds

- o No funds shall be expended for transit capital projects unless there is a reasonable expectation that sufficient operating funds will be available to fund related transit operating expenditures.

- o Programming of projects in the Annual Element of the Regional TIP by state or local agencies shall be deemed a commitment of necessary local funds toimplement the project.

- o Implementation of the AQMP requires a higher return to the region of the gasoline taxes presently being collected.

- o Agencies, jurisdictions or Districts receiving federal funds for capital projects which are offset by the AQMP and would otherwise be required to have air mitigation will support and assist in the implementation of the air quality measures or policies targeted by the plan.

OVERVIEW OF THE PLAN

Background

The Draft Air Quality Management Plan is designed to:

- Identify maximum allowable emissions which will permit clean, healthful air,
- Provide a comprehensive program to attain clean air by 1987 through reasonable, cost conscious incremental actions by agencies at all levels of government,
- Meet the requirements of the California Lewis Air Quality Management Act, and
- Meet the requirements of the Federal Clean Air Act, as amended in 1977.

The South Coast Air Quality Management District and the Southern California Association of Governments are the local lead agencies for developing and approving the AQMP. After plan review and approval by local governments, SCAG and the SCAQMD, the plan is submitted to the California Air Resources Board, which must approve the Plan before it can be submitted to the federal Environmental Protection Agency. After approval by EPA, the plan is the South Coast Air Basin portion of the State Implementation Plan (SIP). As such, the plan is to be implemented by the agencies identified in the plan. Failure to implement the plan can result in federal enforcement and imposition of sanctions against the funding and approval of virtually all federally-funded projects, especially transportation and waste water treatment projects.

Implementation of this plan will place Southern California on a course of action which will result in clean, healthful air quality by 1987. If the plan is being implemented, regional air quality impacts of growth will be offset. This means that the assumed new growth in houses, transportation facilities, waste water treatment plants, and small industrial sources can proceed without case-by-case review for their impacts on regional air quality.

A plan to clean Southern California's air is needed. Air quality standards set to protect the public health are regularly violated by factors of up to five throughout most of the air basin, despite over 25 years of controlling major pollution sources.

Coordinating the actions of the diverse agencies involved in the air quality improvement process is necessary - over 160 agencies are involved. Without an overall implementation plan, piecemeal occasionally conflicting and often confusing air quality decision making will continue.

Plan Highlights

The AQMP is a draft plan which is being reviewed by the cities, counties, agencies and the public of Southern California. Comment and approvals are due by December 15, 1978. SCAG and SCAQMD are required to adopt by January 31, 1979.

Significant tactics to reduce hydrocarbon emissions (major cause of smog) are as follows:

- Additional controls on coatings, painting and solvents (112 tons per day).
- Annual inspection and maintenance of all automobiles (62 tons per day).
- Improved controls in all types of motor vehciles (62 tons per day).
- Future technological controls on stationary sources (33 tons/day).
- Additional controls on aircraft and aircraft use (31 tons per day).
- Improved traffic flow (22 tons per day).
- Emission controls in new lawnmowers (13 tons per day).
- Additional controls on refining and other chemical manufacturing (13 tons per day).
- Improved mass transit (10 tons per day).
- Other controls (23 tons per day).

The recommended plan will result in the attainment by 1987 of all federal health related standards with the exception of total sus pended particulates. (see Table V for a description of attainment strategies by year and pollutant.) Despite new controls on particulate emissions, the latter standard can be attained in this Basin only if there is a change in EPA requirements to permit the deletion of natural background levels from air monitoring readings. If this change is made, particulate standards can be attained in 1982 as required by law. Because of the Basin's proximity to "desert wind", blown sand, standards could be violated even if all man-generated pollutants were removed.

By federal law all standards are to be attained by 1982. For two mobile source pollutants, ozone and carbon monoxide, the Clean Air Act allows the attainment date to be extended from 1982 to 1987 if certain conditions are met. The plan requests the extension and the Plan's response to the conditions is described in a following section and in detail in Chapter XI.

TABLE V

AQMP STRATEGIES

Oxidant (Hydrocarbons)

- Identify all measures necessary to attain federal primary standards (see Recommended Measures Table IX-A).
- Select and agree to implement all measures which are reasonably available for implementation by 1982.
- Request from EPA an extension of the deadline for meeting the standard to 1987.
- Further study and agree by 1982 to implement all measures necessary to attain standards by 1987.
- Provide for maintenance of the oxidant standard through post-1987 reductions in hydrocarbons equal to NO_x reductions needed to attain state NO_2 standard.

Nitrogen Dioxide

- Identify additional measures necessary to attain NO_2 standard by 1982.
- Identify and agree to implement all NO_2 control measures reasonably available for implementation by 1982.
- Identify NO_2 control measures reasonably available for implementation by 1987 (see Recommended Measures Table IX-B).
- Seek Congressional approval of change in the Clean Air Act to allow EPA to grant extension of NO_2 deadline to 1987 on grounds NO_2 is also an automobile-related Pollutant and should be evaluated by the same criteria as HC and CO.
- Implement additional measures needed to attain federal primary NO_2 standard by 1987.
- In revisions to the plan identify additional measures needed to attain state NO_2 standard. (Note commensurate reductions in hydrocarbons are required to maintain ozone standard).

Carbon Monoxide

- o Identify all measures necessary to attain federal primary standards (see Recommended Measures Table IX-C).
- o Select and agree to implement all measures which are reasonably available for implementation by 1982.
- o Request from EPA an extension of the deadline for meeting the standard to 1987.
- o Further study and agree by 1982 to implement all measures necessary to attain standards by 1987.

Sulfur Dioxide

- o Demonstrate attainment of federal SO_2 standard and maintenance in 1982 and 1987.
- o Implement additional SO_2 control measures which ensure progress towards attainment of state SO_2 and state sulfate standards (see Recommended Measures Table IX-D).
- o In revision to the plan adopt additional measures, if necessary, to secure compliance with state SO_2 and sulfate standards. Implementation of such measures will depend, in large part, on the availability of natural gas.

Total Suspended Particulates

- o Identify and agree to implement all feasible controls on traditional sources of particulates (see Recommended Measures Table IX-E).
- o Identify and develop additional, reasonable controls on such non-traditional sources as unpaved roads and construction practices, concentrating on controlling the respirable fractions of these particulates. These controls would be submitted as part of the revision to the AQMP.
- o Seek further studies on the health effects of natural background particulate levels in the SCAB as derived from desert sand, salt spray, etc.
- o Request EPA to revise its interpretation of the TSP standard to pertain solely to the health related respirable fraction of particulates and omit large particles from inclusion in measurements for violation of the standard.

The 1982 attainment date for the federal primary nitrogen dioxide standard will not be met by this Plan. However, the Plan does demonstrate attainment of the standard by 1987. Congress allowed for possible extensions to 1987 of the attainment date for automobile-related pollutants, but did not include nitrogen dioxide in this authorization. AQMP studies show that nitrogen dioxide controls on automobiles are essential to the attainment of the federal NO_2 standard in this Basin, and the Plan recommends that congress amend the Clean Air Act to allow EPA to authorize a 1987 extension for all three automobile related pollutants.

An emergency episode control plan has been implemented by the District to protect Basin residents against high levels of pollutants in the period before the standards are attained. The emergency episode control plan is divided into three stages of increasing action by industry to reduce pollution. For example, at the second stage industry must reduce emission by 50% and employers must reduce driving by employees by 60%. This regulation, described in Chapter XII, will not be needed when the Plan is fully implemented, and pollution levels have been reduced to levels which protect all residents with an adequate margin of safety.

To meet the air quality standards, we must reduce the amount of pollution we put into the air in the South Coast Basin. For each air quality standard, the plan estimates the total number of tons per day of pollution which can be safely disposed into our air. These "allowable" emissions for state and federal standards are recorded in Table VI. Estimates of the total amount of pollution put in the air throughout the region, and the effects of the current controls on all controlled sources of pollution, have been made.

Growth, both population and industrial, is provided for in this Plan. SCAG 1978, a forecast prepared by the Southern California Association of Governments, is the basis for the AQMP forecasts of air quality. It projects a population increase of 3.0 million (or 29%), a housing increase of 1.5 million units (or 36%) and an employment increase of 2.1 million jobs (or 47%) between 1976 and 2000. Larger sources will continue to be under the District's Rule 213 which requires that emission offsets be provided by the applicant. Estimated emissions from these sources have been deleted from the total reduction needed for attainment. The effects of state requirements for new motor vehicles and the District's recently

Table VI

ALLOWABLE EMISSIONS
(Rounded to Nearest 5 Tons)

	Reactive HC**	Total HC***	Nitrogen Dioxide	Carbon Monoxide	Sulfur Dioxide	Total Suspended Particulate Matter
ALLOWABLE EMISSIONS - Federal Standards	505	650	790	2480	460	20
ALLOWABLE EMISSIONS - State Standards	275	355	425	2680	175	5

** Excludes methane; ethane; 1,1,1 - trichloraethane; freon 113; vegetation; animal wastes; and landfill emissions.

*** Excludes vegetation, animal waste, and landfill emissions.

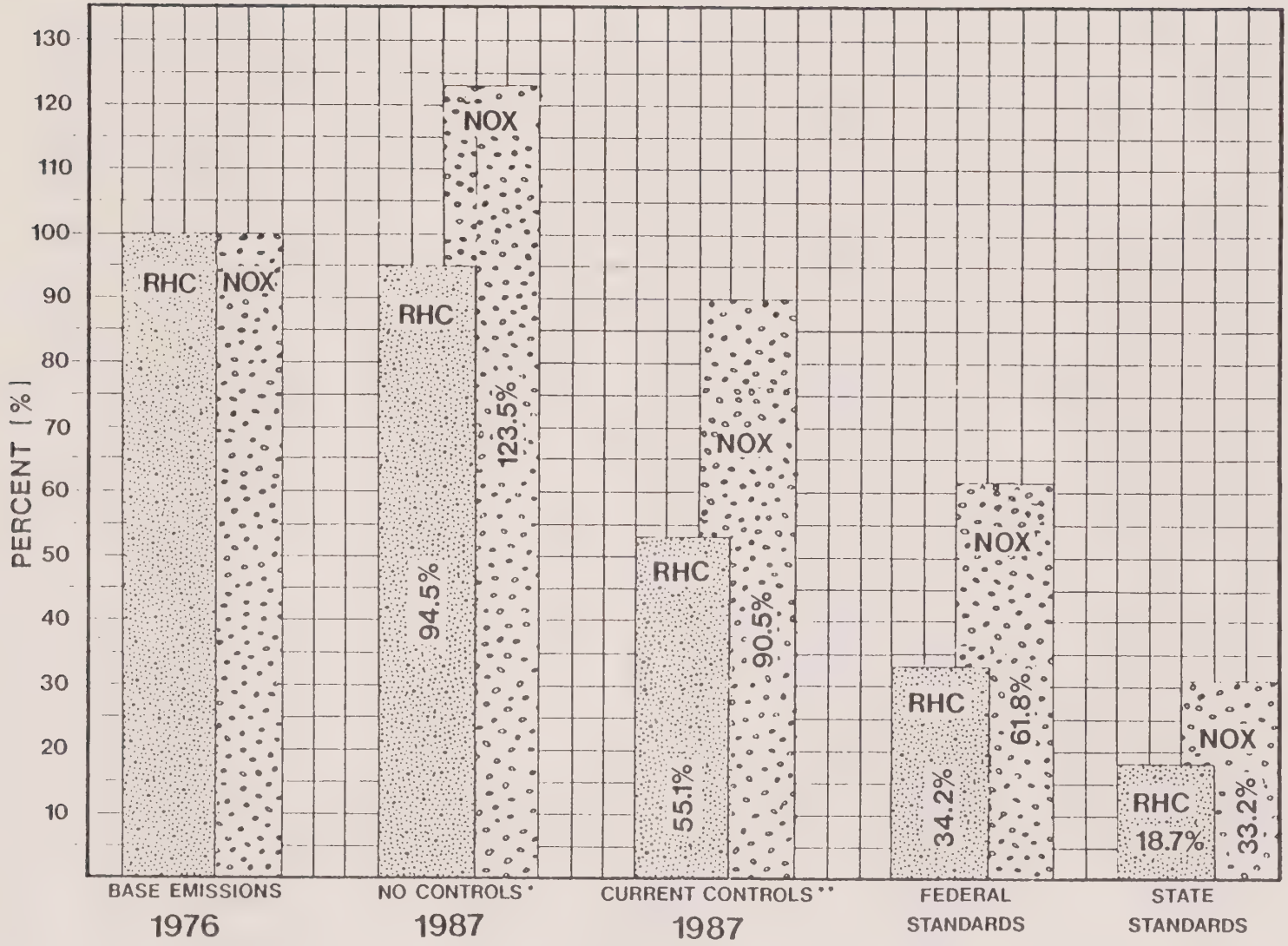
enacted additional controls have been deleted from the future emissions estimates. Figure 1 shows an emission projections example for hydrocarbons and nitrogen dioxide (causes of smog) resulting from the above series of calculations. Table VII shows the required reductions needed to attain all pollutant standards.

Over 130 tactics to reduce the amount of pollution have been analyzed for their effects on pollution, costs and social impacts. The August draft presented these studies and asked the community to help choose the measures. Based on the comments the AQMP staff has recommended the tactics necessary to clean the air.

Recommended tactics rely heavily on continued technological improvement to both stationary and mobile pollution control equipment, including the extension of controls to sources not presently covered. Tactics also include improvement of transit, rideshare and congestion relief. For a listing of all the tactics, their effectiveness and costs, see Table IX. Detailed information on all recommended tactics, as well as tactics for further study is in Chapter IX of the full plan.

FIGURE 1

SUMMARY OF EMISSION PROJECTIONS



*INCLUDES ONLY EFFECT OF RULES ALREADY IMPLEMENTED IN 1976.
**INCLUDES EFFECT OF RULES ADOPTED THOUGH JULY 1978 TO BE IMPLEMENTED BY 1987.

TABLE VII

CURRENT CONTROLS AND AQMP REQUIRED REDUCTIONS
SCAB (Tons/Day)

	RHC	NO_x	CO	SO_x	TSP
1976 Emissions	1478	1283	8441	382	268
1976 Controls (Mobile)*	-300	-96	-2361	-	-
Growth	+218	+397	+1422	+245	+77
Other Current Controls**	-581	-423	+3400	-227	-60
1987 Emissions	815	1161	4102	400	285
TO MEET MOST STRINGENT FEDERAL STANDARDS IN 1987					
MINUS ALLOWABLE EMISSIONS***	-506	-793	-2480	-425	-242
AQMP REQUIRED REDUCTIONS	309	368	1622	-	43
1987 Emissions	815	1161	4102	400	285
TO MEET MOST STRINGENT STATE STANDARDS IN 1987					
MINUS ALLOWABLE EMISSIONS***	-276	-426	-2681	-174	-233
AQMP REQUIRED REDUCTIONS	539	735	1421	226	52

* Includes only effect of rules already implemented in 1976.
** Includes effect of rules adopted through July 1978 to be implemented by 1987.
*** Allowable emissions to meet most stringent Federal Primary or State air quality standards from Table VI.

Reasonable Further Progress (RFP)

The plan is required to demonstrate that it is making "Reasonable Further Progress" (RFP) each year towards meeting the air quality standards. RFP is defined by the Clean Air Act as, annual incremental reductions in emissions for each pollutant, which are sufficient to attain standards by the required date. EPA has further defined RFP so that equal increments of reductions between 1979 and the attainment date are the minimum requirements for RFP. Figures 2a, b, c, and d show the required RFP and the AQMP targets.

To develop AQMP RFP targets all the recommended measures have been summarized for each year. The total by year are targets to demonstrate reasonable further progress is being made towards attaining the standards. If the reasonable further progress targets are not met then the plan must be amended to provide for more reductions. The Plan also sets out emission reduction goals by implementation category (mobile technological, non-technological mobile, and stationary) to be achieved by the implementing agencies in that sector. Meeting the goals are necessary to meet the overall reasonable further progress targets; however tradeoffs between implementing categories will be possible as long as the overall target is met. The reactive hydrocarbon reduction targets for RFP are shown in Table VIII as an example of the targets by implementing category. Figures 2-a, b, c, and d compare RFP targets and the reductions from the same measures.

TABLE VIII

RFP REDUCTION GOALS (RHC)

	Year				
Implementing Category	1979	1980	1981	1982	1987
Mobile Technological	0	-77	-77	-77	-164
Mobile (Travel Related)	-4	-22	-41	-57	-50
Stationary	0	-15	-16	-110	-167
TOTAL RFP REDUCTION COSTS	-4	-114	-134	-244	-381

FIGURE 2a

RHC REASONABLE FURTHER PROGRESS

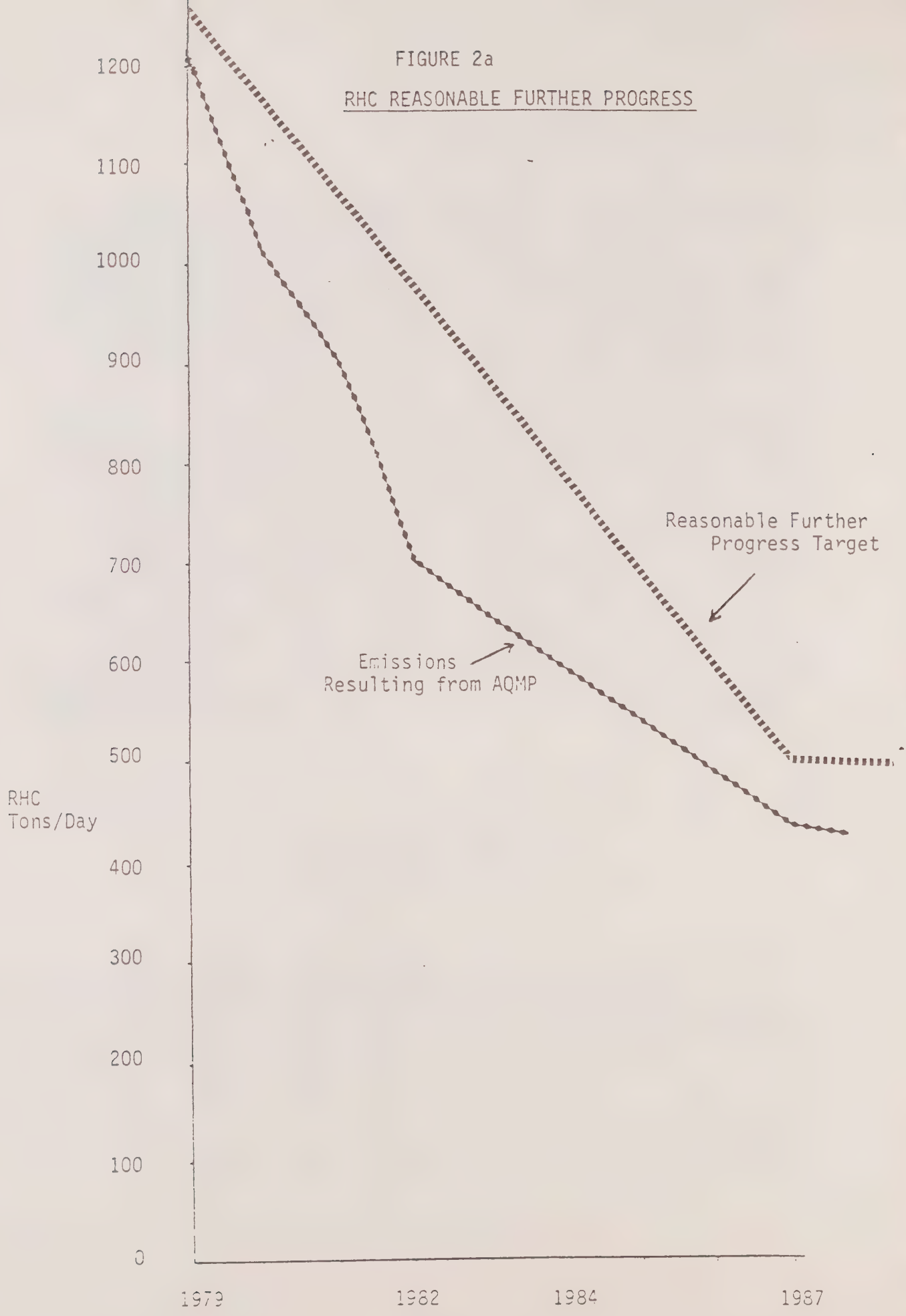


FIGURE 2b

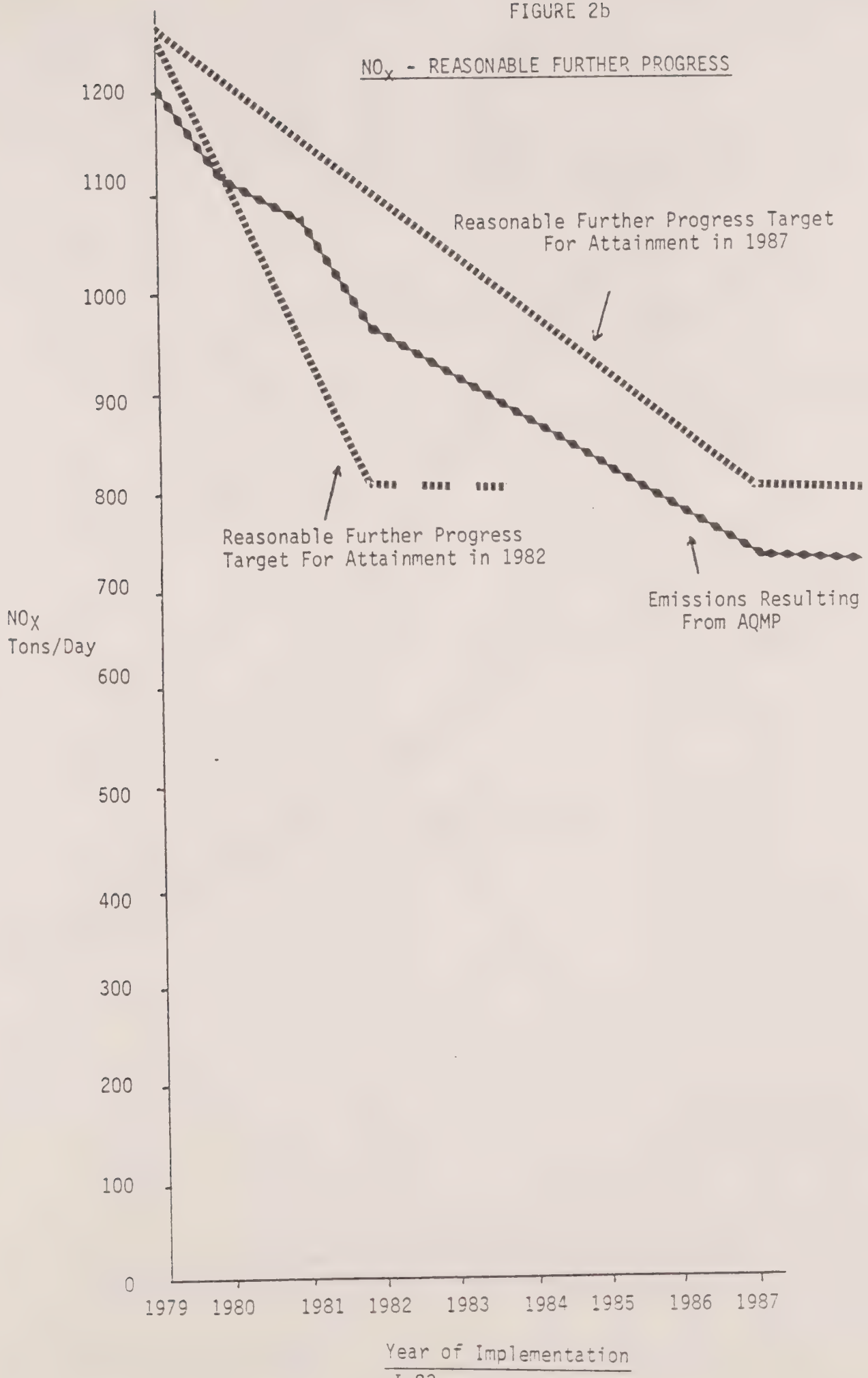

NO_x - REASONABLE FURTHER PROGRESS
Reasonable Further Progress Target For Attainment in 1987
Reasonable Further Progress Target For Attainment in 1982
Emissions Resulting From AQMP
NO_x Tons/Day
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
1979
1980
1981
1982
1983
1984
1985
1986
1987
Year of Implementation

FIGURE 2c

CO - REASONABLE FURTHER PROGRESS

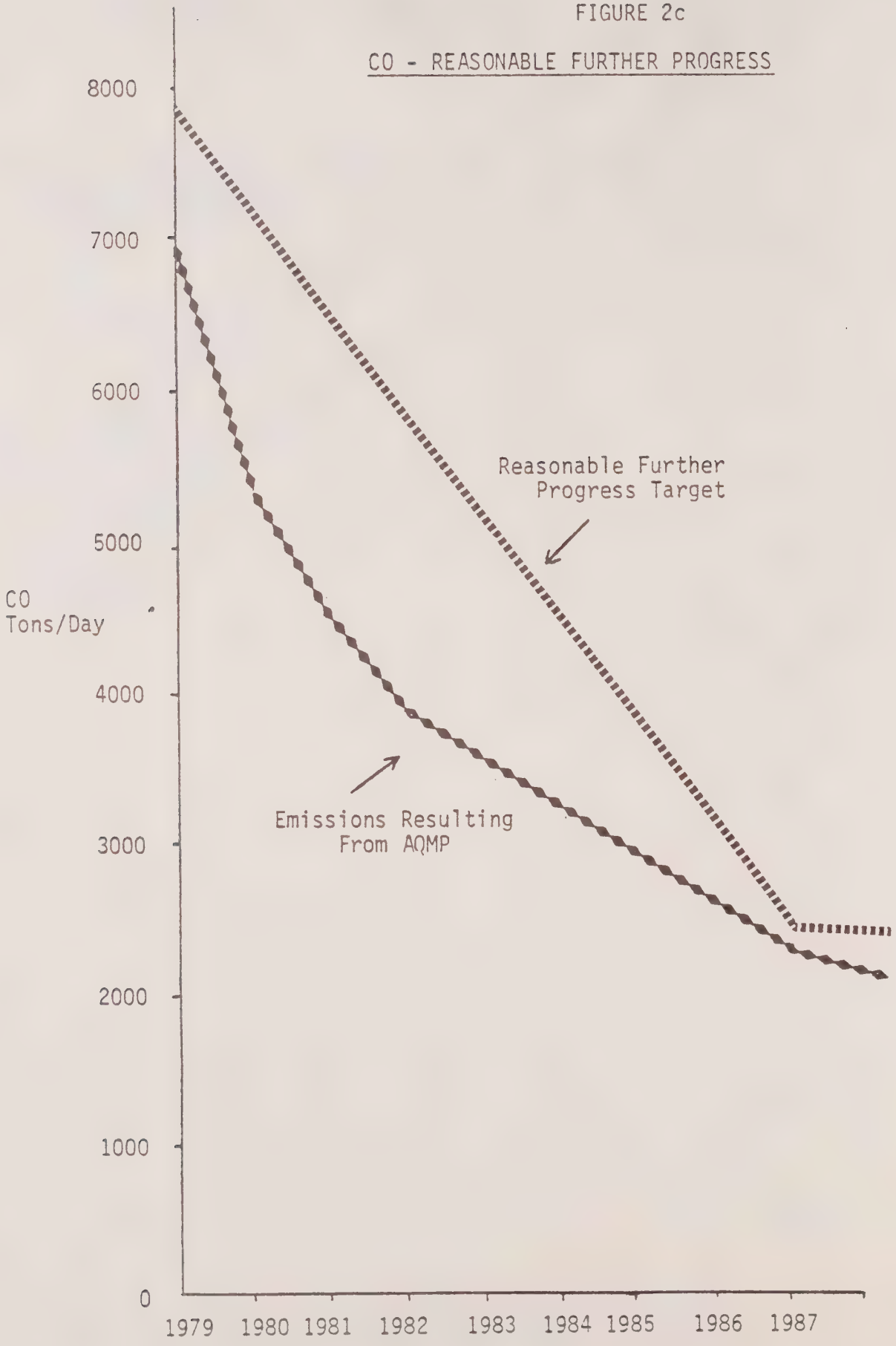
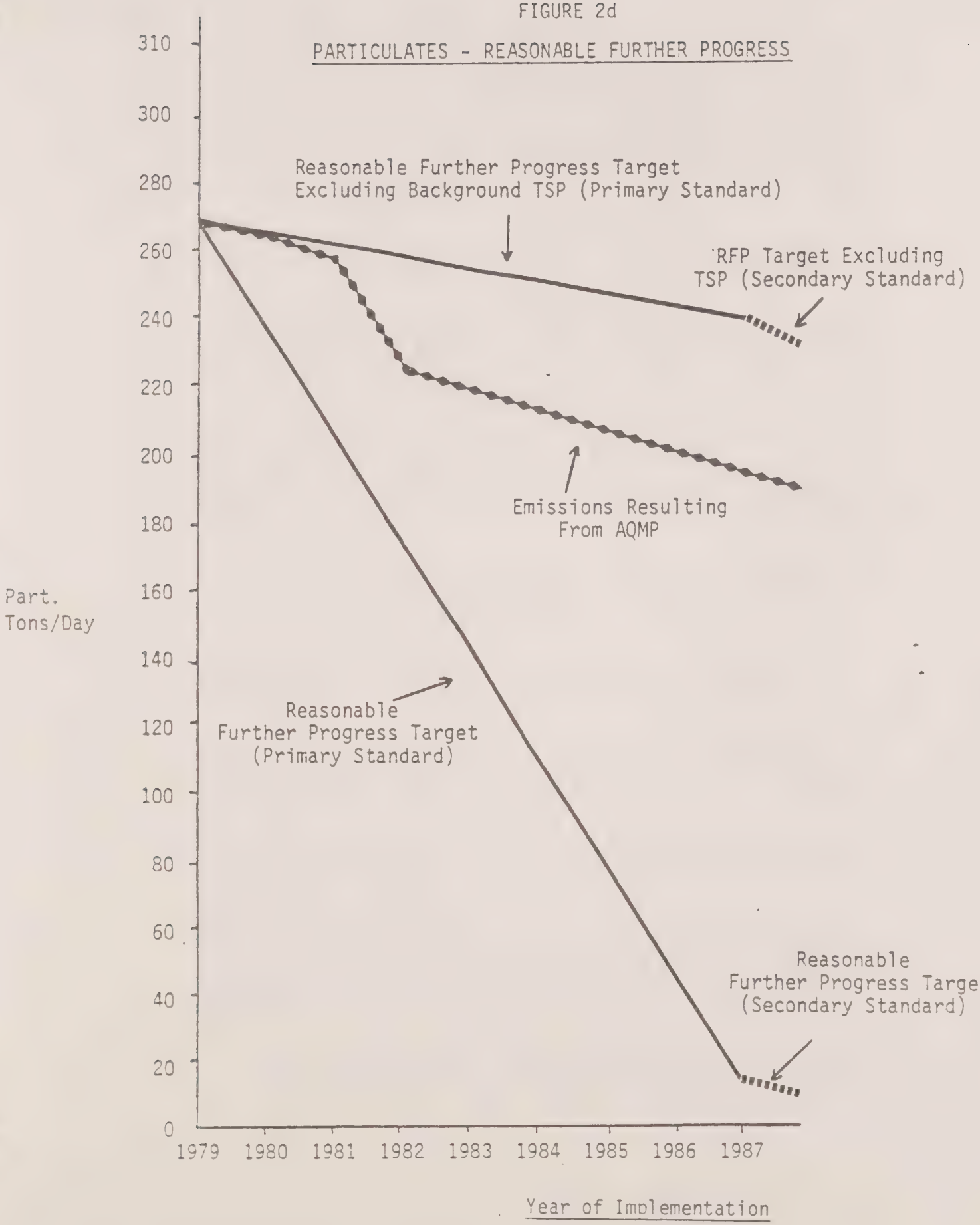


FIGURE 2d

PARTICULATES - REASONABLE FURTHER PROGRESS



Request For an Extension to 1987

If plans are unable to show that the adoption of all reasonably available control measures will result in attainment of the oxidant and carbon monoxide standards by 1982, the plans must demonstrate compliance with certain conditions in order to receive an extension of the deadlines to 1987. A description of the recommended implementation of these requirements is included in Chapter XI. These conditions and our responses are:

- o Implementation of an inspection-maintenance program for light duty motor vehicles.

  This measure has been identified in the proposed list of tactics as essential to attainment of the oxidant standard in this basin. EPA is interpreting the requirement of "periodic" inspections contained in Section 110 of the Clean Air Act to mean annual inspection.

- o A program which requires prior to the issuance of a permit to construct or modify a major new source of pollution, an analysis which demonstrates the benefits of the proposed source significantly outweigh the environmental and social costs of the project.

  The AQMP recommends adopting the state ARB recommendation that this requirement be met at the state level through modification of the CEQA process.

- o A listing of additional measures considered but not recommended for inclusion in the Plan (see Chapter IX).

  As required by the Department of Transportation, a commitment to use available funds, insofar as is necessary, to establish, expand or improve public transportation systems to meet basic transportation needs

- o The draft recommends that "basic transportation needs" of the region be defined as those needs identified and met by the Regional Transportation Plan.

  For the purposes of the AQMP, the following categories funds shall be considered available to fund adopted transportation control measures, and to fund public transportation measures to meet basic transportation needs:

  - All funds available under Section 5 and Section 3 of the Urban Mass Transportation Act of 1964 as amended.

- To the extent necessary to support required capital improvements, and the extent allowed by law, Federal Aid Primary and Federal Aid Interstate highway funds.

- To the extent necessary and to the extent allowed by law, Federal Aid Urban highway funds.

- To the extent necessary and to the extent allowed by law, Transportation Development Act (TDA) funds.

- All fare box and other operating revenues.

- To the extent necessary and allowed by law, Proposition 5 funds.

Costs

Air pollution causes damages to health, property and vegetation. These damages result in real costs to the public which have been estimated to be 1.5 to 2.0 billion dollars per year. This is about 200 dollars per person per year in the South Coast Basin. The costs of implementing the AQMP tactics as recommended are estimated to be a little less than 500 million dollars a year, or about 50 dollars per person per year. Through implementation of the plan each resident of the South Coast Basin could realize a cost savings of over 100 dollars a year. Since all costs are ultimately paid by the consumer or general public, all costs were calculated on that basis. In this area of renewed interest in reducing government expenditures, and thereby taxes, it is important which sector is impacted by the AQMP measures. Costs of meeting federal standards by sector are approximately as follows:

Sector	Annual Costs (Millions of Dollars)	Dollars Per Capita
Direct to Consumer	100	10
Private industry (within region)	200	20
Private industry (outside region)	130	13
State & Federal Government	30	3
Local government	20	2
AQMP Costs (To meet Federal Standards)	480	48
Savings to public through mitigation of damages	1,500 - 2,000	150-200
Net savings to public	1,000	100-150

* Assumes 10 million people are in affected sector

Resources

The local government costs to implement the AQMP are approximatly 20 million per year. In addition, for the AQMP to be successful, certain planned but currently unfunded transportation projects (see Chapter XI.2 for details) need to be implemented. In total, there are approximately 800 million dollars in capital costs and 100 million in operating costs, which are required if the AQMP mobile portion is to be successful.

There are three sources of funds to implement the AQMP. First, the plan recommends that Waste Water construction grants which are currently being expended on mitigation of air quality impacts which are offset by the AQMP should be used to assist in the implementation of local governments AQMP measures. Second, the plan recommends that legislation be enacted to index the gas tax to maintain it on a constant percentage basis. Third, the plan recommends that the transportation construction funds in California be allocated in proportion to the gas tax levies (For a detailed discussion of resources, see Chapter XIII).

As a result of the above transfer of government funds, the net governmental costs of implementaing the AQMP could be zero. However the opportunity costs for projects not developed must be considered.

Plan Approval and Adoption

Before adoption of the Plan by January 31, 1979, the public and all local governments in the region will have an opportunity to review, comment and approve the AQMP. The preliminary plan was sent to all cities and counties for review in August, 1978. The Draft Plan is based on comments received by October 3,1978. Comments received by December 15, 1978 will be used to develop the final plan.

SCAG and District Approval and Adoption:

Adoption of the AQMP by the SCAG Executive Committee and the District Board (see Figure 3) means the following:

a. The plan should be submitted to ARB and EPA as the State Implementation Plan (SIP) for the South Coast Basin,

b. The recommended measures have been identified as necessary to attain federal standards,

c. Reasonably available control measures are the measures recommended in the plan for pre-1982 implementation.

d. The District and SCAG agree, within and consistent with their legal authority, to implement the reasonable available measures by 1982 and to study the other measures for implementation after 1982, and

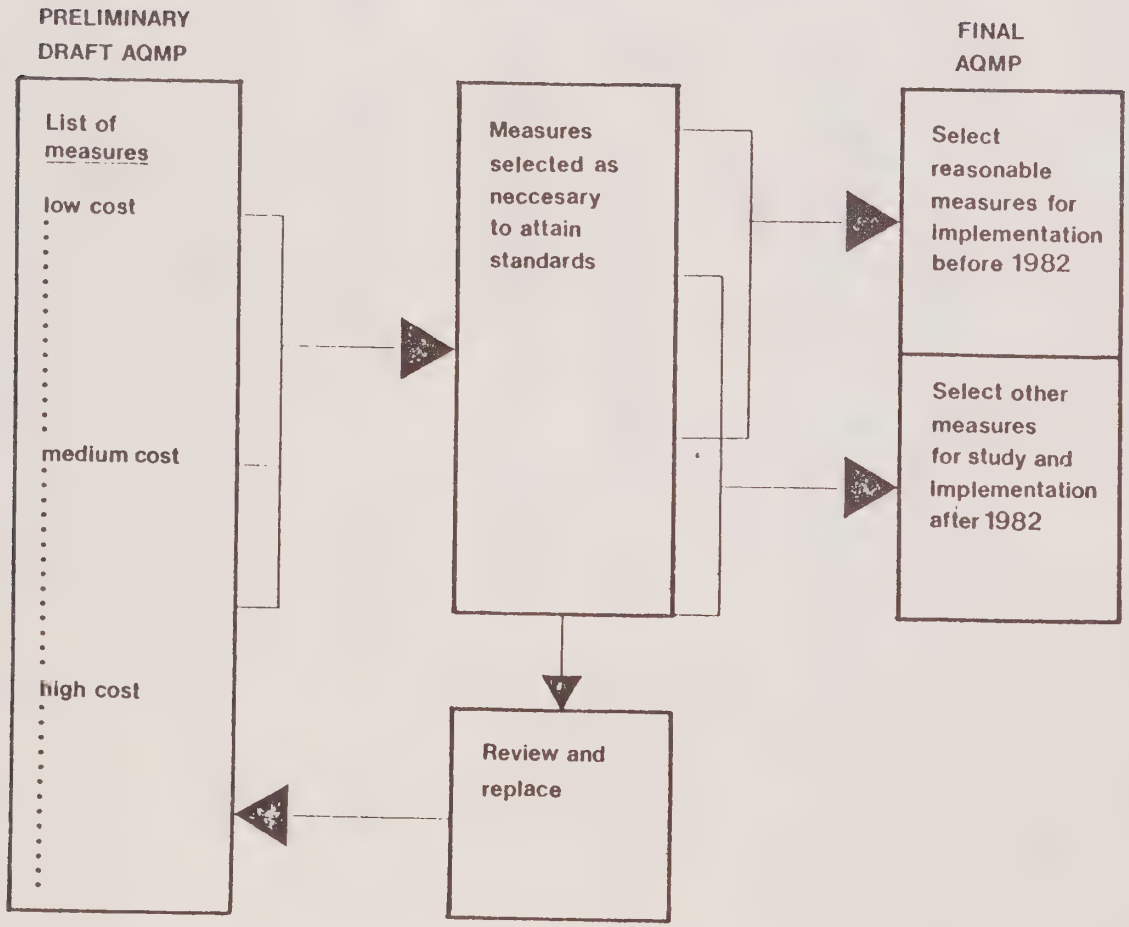
e. The District agrees to adopt rules and regulations to implement the measures recommended in the AQMP, or other regulations which meet the RFP goals by year for stationary sources.

f. SCAG agrees to implement the AQMP by approving transportation and wastewater plan, programs and projects which are consistent with the AQMP, or other measures which meet the RFP goal by year for the non-technological mobile category of measures.

Proposed measures in this Draft Plan will be evaluated by the same groups which reviewed the Preliminary Draft. In addition, public hearings have been scheduled throughout the region in December. (For times and places see Table III) These hearings, which will be joint for both the Draft Plan and the Draft Environmental Impact Report, will be conducted by a formal hearing officer and one member for each from the SCAQMD Board and the SCAG Executive Committee. Transcripts will be prepared and formal recommendations, based on testimony received, submitted to the Board and Executive Committee by the Hearing Officer. Comments on the Plan received by staff will also be submitted to the Board and Executive Committee by January 1.

FIGURE 3

DEVELOPMENT OF FINAL AQMP



Instructions for modifications to the Draft Plan are scheduled by the SCAG Executive Committee for January 4, 1979 and by the District Board for January 5, 1979. If differences exist between the two Boards, committees will meet to resolve conflicts and instruct staff on what changes must be made in the Draft Plan before it can be submitted to ARB on January 31, 1979. The District Board and SCAG Executive Committee will approve all changes and the Board will submit the Plan by this date.

Additional changes may be required as a result of review by either the Air Resources Board or the Environmental Protection Agency. If the local portion of the plan is affected, then local revisions may be required. Yearly progress reports are mandated by EPA, and revisions to the plan may be necessary if certain measures prove to be more or less effective in use than presently anticipated.

Local government approval is required for measures which are to be implemented by local governments. Local governments can implement the plan through adoption of ordinances, policy commitments, or other means which accomplish the tactics for implementation by local government in the plan, or equivalent tactics. The adopted AQMP will define which, if any, tactics should be implemented by local governments and will define an emission reduction target for such measures. The local governments are participating through the subregional planning process in the selection of the most reasonable measures for the AQMP. If the regional measure is not implementable by the jurisdidiction the option of adoption of tactics which provide an equivalent reduction for each jurisdiction is available. The Subregional plans provide such alternative measures.

Local Government Approval and Adoption:

Approval of the AQMP by a local jurisdiction means the jurisdiction agrees to:

a. The general concept of the AQMP is acceptable to the jurisdiction and the plan should be submitted to the State and Federal Governments.

b. The jurisdiction supports the measures recommended in the Draft or substitutes other measures for adoption by the SCAG Executive Committee and the District Board.

c. The jurisdiction agrees that the growth forecasts to be mitigated by the AQMP are those contained in the SCAG Development Guide.

d. The jurisdiction is agreeing to supporet state and federal implementation of the measures identified in the plan for implementation at those levels through the appropriate channels.

e. The jurisdiction is agreeing to develop a schedule for adopting the plan.

Although few of the recommended measures are implemented by local governments, after the plan has been sent to ARB and EPA for approval, local governments will be asked to start adopting the plan. Adoption of the plan means the following:

The jurisdiction agrees to:

a. Implement local government tactics adopted for the AQMP or equivalent measures from the subregional plan, and

b. Develop and submit a schedule for accomplishing above paragraph.

How Measures Were Selected

For Preliminary Draft:

Various agencies have been involved in developing the proposed emission control measures. Development of these measures was assigned to the staff or staffs most familiar with emission reduction controls in each of the major emission source categories (stationary, mobile and area). The stationary source controls were principally developed by the SCAQMD, with input from the Air Resources Board (ARB), Environmental Protection Agency (EPA), SCAG and others. The controls relating to motor vehicle emission reductions were principally assigned to SCAG's Transportation Planning Department, with assistance from the subregional agencies, ARB, EPA, CALTRANS, the Transportation Commissions and the Transportation Technical Committees.

Emission controls that can be implemented by local governments were assigned to subregional agencies designated by SCAG in accordance with requirements of the State's Lewis Air Quality Management Act. These agencies were: the Counties of Los Angeles, Orange, Riverside and San Bernardino and the City of Los Angeles. The planning agencies, working through county coordinating committees comprised of local elected officials from the counties and cities, developed plans for their jurisdictions. SCAG's Comprehensive Planning Department had the responsibility for developing regional land use and energy conservation measures. AQMP staff coordinated all these efforts and developed the overall framework for assessing the impacts. Subregional plans were released for review in the summer of 1978, and regional measures were first released in AQMP Working Paper #4, July 1978.

The District Advisory Council, comprised of 33 members of the public representing industry, environmental, academic, civic, and medical groups, was recognized by both SCAG and the SCAQMD as the focal point for continuing public input into development of the AQMP. After review many measures were recommended by the Advisory Council for consideration in the Draft Plan. Additional measures were also proposed by the Council and by other groups who reviewed the initial proposals. As a result of this ongoing review process, over 125 measures were identified for consideration in the August Preliminary Draft.

Each measure listed in the Preliminary Draft had been assessed by planning staff using a common methodology so the impacts could be directly compared. The impacts assessed included effectiveness (tons reduction), annual costs (dollars), cost-effectiveness, (dollars/ton) and social, environment, economic and feasibility impacts (positive, negative or neutral).

For Draft Plan:

Since its release in late August, the Preliminary Draft has been reviewed by local elected officials, both individually and in such groups as the League of California Cities and County Coordinating Committees, County Transportation Committees, by the District Advisory Council, the Air Resources Board, Environmental Protection Agency, and by local citizens, either through such professional organizations as the California Manufacturer's Association and the California Council for Environmental and Economic Balance or in workshops held throughout the Basin. (For more information on these workshops see Chapter XIV.)

From these sources staff received additional information which enabled it to make a more detailed analysis of some tactics and of associated impacts, as well as to make revisions to the inventory and future projections. In the Preliminary Draft each tactic was analyzed independently. However, the total reduction potential of the list was not additive. Implementation of some measures, e.g. annual inspection-maintenance of vehicles, will reduce the effectiveness of some other transportation measures.

This review process led to recommendations for which measures were reasonably available, either technically or politically, for immediate implementation. The Clean Air Act, as amended 1n 1977, requires the implementation of all reasonably available measures as a condition for granting an extension of the 1982 deadline for carbon monoxide and oxidant to 1987. Certain measures have been identified by the Environmental Protection Agency, Air Resources Board and Department of Transportation as reasonably available for implementation by 1982. Tables showing where the AQMP addresses the EPA, and DOT planning requirements can also be found in the Tables XIII and XIV.

How the Plan was Developed

To determine the degree of emission reduction needed to attain air quality standards in the South Coast Basin, it is first necessary to establish the baseline conditions. These include: air quality readings in the chosen year (1976); selection of the worst case meteorological patterns which might lead to violation of the standards; an inventory of emissions by source category in the base year, and the regulations in place for controlling these emissions. Detailed information on base emissions are contained in Chapters IV, V and VI.

It is then necessary to project future air quality for the target years, 1982 and 1987. Assumptions must be made concerning additional controls known to be taking effect since the base year: population growth and distribution, travel modes and choices, energy and industrial growth by sector. Chapter VII is a detailed description of the forecast emissions. In 1977 the South Coast Air Quality Management District reviewed existing regulations, and began revising these rules and adopting additional measures. and an estimate of their effectiveness in 1982 and 1987 are described in Chapter VI. These rules provide written evidence that the District, as the agency responsible for their implementation, has adopted the necessary regulations and is committed to implement the Plan, as required by Sec. 172 of the Clean Air Act.

Based upon the above, air quality levels are projected through modeling each contaminant for the years 1982 and 1987, and estimates are made of the degree of emission reduction needed to attain standards (Chapter VIII). Many measures are reviewed for their effectiveness, impact and feasibility, and a package is selected through the emissions reduction needed to attain standards. (Chapter IX.) Additional measures are available for substitution at the local level. These were developed through the subregional planning process and are described in Chapter X.

A demonstration is required by EPA of an adequate system for insuring that contaminant levels are monitored, (of a procedure for protecting the public health from high contamination levels), during the period prior to full implementation of the plan, and of an adequate analysis of the proposed measures, including an environmental assessment and public comments thereon. These requirements are addressed in the Plan in Chapters XII, XIV, XVII, and XVIII.

TABLE IX Recommended Measures

A. Reactive Hydrocarbons
B. Nitrogen Dioxide
C. Carbon Monoxide
D. Total Suspended Particulates
E. Sulfur Dioxide

TABLE IX-A

Reactive Hydrocarbon Control Measures
Recommended Attainment List

#	Control Measure	Implementing Agency/ Year of Implementation	Reduction (Tons/Day) 1982	1987	Annualized Cost
1.	Increased Air Passenger Load Factor (H-1)	Airline Operators, PUC,CAB; 1979	2.8	0.9	Savings
2.	Jet Aircraft Ground Taxi Improvements (H-2)	Airline Operators, FAA; 1983	---	2.7	Savings
3.	Modified Work Schedules (H-4)	Public and Private Employers; 1981	5.9	3.4	Savings
4.	Parking Management: Car-pool Preferential Parking (H-5)	Local Governments, Parking Lot Operators, Employers; 1981	0.4	0.3	No Cost
5.	General Aviation Aircraft Engine Emission Controls (H-6)	ARB/Aircraft Manufacturers; 1983	---	5.6	$1,530,000
6.	Emission Standards-New Off-Road Heavy Duty Non-Farm Equipment (H-7)	ARB/Manufacturers, 1983	---	5.7	$1,642,000
7.	Maintain Leaky Valves in Non-Refinery Industrial Processes (H-9)	SCAQMD; 1980	0.5	0.5	$186,000
8.	Electrify Railroad Switching Yards (H-11)	Railroads; 1983	---	4.4	$2,100,000
9.	Trip Reduction Program (H-13)	SCAG, County Trans-portation Commissions, Caltrans, Local Governments; 1980	18.8	11.3	$5,000,000
10.	Emission Standards - New Farm Equipment (H-15)	ARB, Farm Equipment Manufacturers; 1983	---	1.9	$1,410,000
11.	Proposed 1978 Emission Standards - Jet Aircraft Engines (H-16)	FAA, EPA, Manufacturers and Airlines; 1983	---	21.4	$13,440,000
12.	Annual Inspection and Maintenance of Light Duty Vehicles (H-18)	ARB, DCA, DMV; 1982	74.9	61.7	$106,505,000

TABLE IX-A (Continued)

#	Control Measure	Implementing Agency/ Year of Implementation	Reduction (Tons/Day) 1982	1987	Annualized Cost
24.	Substitute Coatings Used in Magnetic Wire Mfg. (H-31)	SCAQMD; 1985	---	1.2	$492,000
25.	Rideshare Program (H-34)	Local Governments, Employers, Commuter Computer; 1979	10.9	6.6	$38,000,000
26.	Traffic Signal Synchronization (H-35)	Local Governments, Caltrans; 1979-1987	1.7	0.9	$5,040,000
27.	Voluntary Retirement of Old Cars (H-36)	ARB, DMV, SCAQMD; 1980	9.2	9.2	$22,525,000
28.	Substitute Coatings Used in Automobile Manufacturing (H-37)	SCAQMD; 1982	8.6	8.6	$7,135,900
29.	Substitute Coatings Used in Metal Can and Coil Stock Manufacturing (H-39)	SCAQMD; 1982	8.4	8.4	Savings
30.	Emission Controls on Metal Cleaning Operations (H-42)	SCAQMD; 1980	5.6	5.6	$438,600
31.	Substitute Coatings Used in Printing Operations (H-43)	SCAQMD; 1982	14.9	14.9	Savings
32.	Substitute Materials Used in Asphalt Applications (Cutback Asphalt) (H-44)	SCAQMD; 1982	4.3	4.3	$960,000
33.	Substitute Coatings Used in Wood Furniture Finishes (H-45)	SCAQMD; 1982	2.7	2.7	$1,820,000
34.	Emission Controls for Chemical Mfg. Plants (H-46)	SCAQMD; 1986	---	1.4	$985,000

TABLE IX-A (Continued)

#	Control Measure	Implementing Agency/ Year of Implementation	Reduction (Tons/Day) 1982	1987	Annualized Cost
35.	Emission Controls for Paint Mfg. Plants (H-47)	SCAQMD; 1982	1.4	1.4	$280,000
36.	Emission Controls for Rubber Products Mfg. Plants (H-48)	SCAQMD; 1982	1.1	1.1	$920,300
37.	Substitute Coatings Used in Metal Parts and Products Mfg. (H-49)	SCAQMD; 1982	28.3	28.3	$5,888,000
38.	Substitute Coatings Used in Automobile Refinishing (H-54)	SCAQMD; 1986	---	6.3	$14,742,000
39.	Oil Tank Cleaning (H-56)	SCAQMD; 1982	0.9	0.9	$2,100,000
40.	Emission Controls on Pharmaceutical Manufacturing Operations (H-57)	SCAQMD; 1982	0.6	0.6	$676,000
41.	Substitute Coatings Used in Basic Wood Furniture Manufacturing (H-59)	SCAQMD; 1985	---	3.2	$5,408,000
42.	Marine Fuel Transfer Operations (H-62)	SCAQMD; 1985	---	6.7	$15,870,000
43.	Off-Road Motorcycle Emission Standards (H-64)	ARB, Manufacturers; 1983	---	2.6	$15,320,000
44.	Substitute Coatings Used in the Aerospace Industry (H-65)	SCAQMD; 1983	---	0.7	$13,000
45.	Improved Trucking Efficiency (H-72)	Trucking Operators, ICC, PUC; 1983	---	4.1	Undetermined

TABLE IX-A (Continued)

#	Control Measure	Implementing Agency/ Year of Implementation	Reduction (Tons/Day) 1982	1987	Annualized Cost
46.	Freeway Facility Changes Supporting High Occupancy Vehicles (H-85)	Caltrans, Transit Operators; 1983	---	1.8	*
47.	Wilshire Rail Line (H-86)	SCRTD; 1986	---	0.3	*
48.	Los Angeles Downtown People Mover (H-87)	L.A. Community Redevelopment Agency; 1981	0.1	0.1	*
49.	Congestion Relief - Freeway Widenings (H-88)	Caltrans; 1983	---	1.9	*
50.	Transit Improvements (H-89)	Transit Operators; 1979	1.1	0.6	*
51.	Future Improvement of Technological Controls for Stationary Sources (H-90)	SCAQMD; 1983-1987	---	33.0	Undetermined
	Total		238.4	380.7	$389,253,000

*Costs for these measures are not included because they are part of the Regional Transportation Plan or will be implemented for reasons other than air quality.

TABLE IX-B

Oxides of Nitrogen Control Measures
Recommended Attainment List

#	Control Measure	Implementing Agency/ Year of Implementation	Reduction (Tons/Day) 1982	1987	Annualized Cost
1.	Energy Conservation; Commercial Institution & Industrial Audits (N-1)	Utilities, State, 1983	---	20.9	Savings
2.	Energy Conservation Residential Retrofit (N-2)	Local Government, Utilities, State; 1983	---	10.7	Savings
3.	Alter Design of New Residential Space Heaters (N-5)	SCAQMD; 1984	---	15.8	$ 7,500,000
4.	Alter Design of New Residential Water Heaters (N-6)	SCAQMD; 1985	---	3.7	$ 3,600,000
5.	Emission Controls on Cement Kilns (N-7)	SCAQMD; 1979	3.8	3.8	Savings
6.	Emission Controls on Medium & Small Steam Generators (N-8)	SCAQMD; 1983	---	12.3	$ 4,700,700
7.	Emission Controls on Gas Turbines (N-9)	SCAQMD; 1985	---	3.0	$22,192,400
8.	Emission Controls on Industrial Boilers (N-10)	SCAQMD; 1987	---	26.9	$ 8,546,700
9.	Emission Controls on Refinery Heaters (N-11)	SCAQMD; 1982	49.5	49.5	$21,872,500
10.	Retardation of Fuel Injection Timing for Marine Diesel Engines (N-13)	Federal, State, Local Government; 1985	---	0.4	$ 62,000
11.	Emission Controls on Glass Melting Furnaces (N-14)	SCAQMD; 1985	---	5.9	$ 2,625,000

TABLE IX-B (Continued)

#	Control Measure	Implementing Agency/ Year of Implementation	Reduction (Tons/Day) 1982	1987	Annualized Cost
12.	Emission Controls on Stationary Internal Combustion Engines (N-16)	SCAQMD; 1980	---	9.5	$ 870,000
13.	Modified Work Schedules (H-4)	Public and Private Employers; 1981	3.1	2.4	*
14.	Parking Management: Car-pool Preferential Parking (H-5)	Local Governments, Parking Lot Operators, Employers; 1981	0.4	0.4	*
15.	General Aviation Aircraft Engine Emission Controls (H-6)	ARB/Aircraft Manufacturers; 1983	---	+3.5	*
16.	Emission Standards-New Off-Road Heavy Duty Non-Farm Equipment (H-7)	ARB/Manufacturers, 1983	---	28.3	*
17.	Electrify Railroad Switching Yards (H-11)	Railroads; 1983	---	17.7	*
18.	Trip Reduction Program (H-13)	SCAG, County Transportation Commissions, Caltrans, Local Governments; 1980	18.7	13.7	*
19.	Emission Standards - New Farm Equipment (H-15)	ARB, Farm Equipment Manufacturers; 1983	---	0.7	*
20.	Proposed 1978 Emission Standards - Jet Aircraft Engines (H-16)	FAA, EPA, Manufacturers and Airlines; 1983	---	0.8	*
21.	Annual Inspection and Maintenance of Light Duty Vehicles (H-18)	ARB, DCA, DMV; 1982	49.1	66.6	*
22.	Emission Controls for Lawnmowers and Garden Equipment (H-22)	ARB; 1980	0.2	1.2	*
23.	Increased Bicycle/ Pedestrian Facilities (H-23)	Caltrans, Local Govt., Private Sector; 1980	0.3	0.4	*

TABLE IX-B (Continued)

#	Control Measure	Implementing Agency/ Year of Implementation	Reduction (Tons/Day) 1982	1987	Annualized Cost
24.	Improved Emission Controls for Motor Vehicles (H-24)	ARB, Auto Mfg; 1983	---	83.4	*
25.	Rideshare Program (H-34)	Local Governments, Employers, Commuter Computer; 1979	10.9	8.0	*
26.	Traffic Signal Synchronization (H-35)	Local Governments, Caltrans; 1979-1987	0.5	+0.3	*
27.	Voluntary Retirement of Old Cars (H-36)	ARB, DMV, SCAQMD; 1980	1.9	1.9	*
28.	Improved Trucking Efficiency (H-72)	Trucking Operators, ICC, PUC; 1983	---	9.7	*
29.	Freeway Facility Changes Supporting High Occupancy Vehicles (H-85)	Caltrans, Transit Operators; 1983	---	2.1	*
30.	Wilshire Rail Line (H-86)	SCRTD; 1986	---	0.4	*
31.	Congestion Relief - Freeway Widenings (H-88)	Caltrans; 1983	---	+0.1	*
32.	Transit Improvements (H-89)	Transit Operators; 1979	1.3	0.8	*
33.	Future Improvement of Technological Controls for Stationary Sources (H-90)	SCAQMD; 1983-1987	---	33.0	*
			149.1	430.0	$71,969,000

*Costs for these measures are covered in the Hydrocarbon Section.

TABLE IX-C

Carbon Monoxide Control Measures
Recommended Attainment List

#	Control Measure	Implementing Agency/ Year of Implementation	Reduction (Tons/Day) 1982	1987	Annualized Cost
1.	Increased Air Passenger Load Factor (H-1)	Airline Operators, PUC, CAB; 1979	5.7	2.2	*
2.	Jet Aircraft Ground Taxi Improvements (H-2)	Airline Operators, FAA; 1983	---	14.2	*
3.	Modified Work Schedules (H-4)	Public and Private Employers; 1981	46.2	29.2	*
4.	Parking Management: Car-pool Preferential Parking (H-5)	Local Governments, Parking Lot Operators, Employers; 1981	3.0	2.6	*
5.	General Aviation Aircraft Engine Emission Controls (H-6)	ARB/Aircraft Manufacturers; 1983	---	97.6	*
6.	Emission Standards-New Off-Road Heavy Duty Non-Farm Equipment (H-7)	ARB/Manufacturers, 1983	---	72.6	*
7.	Electrify Railroad Switching Yards (H-11)	Railroads; 1983	---	72.6	*
8.	Trip Reduction Program (H-13)	SCAG, County Trans-portation Commissions, Caltrans, Local Governments; 1980	142.2	92.6	*
9.	Emission Standards - New Farm Equipment (H-15)	ARB, Farm Equipment Manufacturers; 1983	---	18.2	*
10.	Proposed 1978 Emission Standards - Jet Aircraft Engines (H-16)	FAA, EPA, Manufacturers and Airlines; 1983	---	29.5	*
11.	Annual Inspection and Maintenance of Light Duty Vehicles (H-18)	ARB, DCA, DMV; 1982	693.8	500.0	*

TABLE IX-C (Continued)

#	Control Measure	Implementing Agency/ Year of Implementation	Reduction (Tons/Day) 1982	1987	Annualized Cost
12.	Emission Controls for Lawnmowers and Garden Equipment (H-22)	ARB; 1980	19.4	116.3	*
13.	Increased Bicycle/ Pedestrian Facilities (H-23)	Caltrans, Local Govt., Private Sector; 1980	7.1	5.0	*
14.	Improved Emission Controls for Motor Vehicles (H-24)	ARB, Auto Mfg; 1983	---	561.0	*
15.	Reduce Jet Aircraft Queuing Delays (H-25)	FAA, Airport Operators, Airlines; 1983	---	2.3	*
16.	Rideshare Program (H-34)	Local Governments, Employers, Commuter Computer; 1979	85.3	54.4	*
17.	Traffic Signal Synchronization (H-35)	Local Governments, Caltrans; 1979-1987	14.2	8.7	*
18.	Voluntary Retirement of Old Cars (H-36)	ARB, DMV, SCAQMD; 1980	76.8	76.8	*
19.	Off-Road Motorcycle Emission Standards (H-64)	ARB, Manufacturers; 1983	---	2.8	*
20.	Improved Trucking Efficiency (H-72)	Trucking Operators, ICC, PUC; 1983	---	38.0	*
21.	Freeway Facility Changes Supporting High Occupancy Vehicles (H-85)	Caltrans, Transit Operators; 1983	---	14.2	*
22.	Wilshire Rail Line (H-86)	SCRTD; 1986	---	2.4	*

TABLE IX-C (Continued)

#	Control Measure	Implementing Agency/ Year of Implementation	Reduction (Tons/Day) 1982	1987	Annualized Cost
23.	Los Angeles Downtown People Mover (H-87)	L.A. Community Redevelopment Agency; 1981	1.1	1.0	*
24.	Congestion Relief - Freeway Widenings (H-88)	Caltrans; 1983	---	15.8	*
25.	Transit Improvements (H-89)	Transit Operators; 1979	8.0	4.8	*
	Total		1102.8	1769.5	*

* Since all of the carbon monoxide measures are also hydrocarbon measures, the costs are accounted for in the hydrocarbon costs.

TABLE IX-D

Total Suspended Particulate Control Measures
Recommended Attainment List

#	Control Measure	Implementing Agency/ Year of Implementation	Reduction (Tons/Day) 1982	1987	Annualized Cost
1.	Filter Dust from Pharmaceutical Manufacturing Processes (P-3)	SCAQMD; 1980	0.4	0.4	$280,000
2.	Filter Dust from Rubber Products Manufacturing Processes (P-4)	SCAQMD; 1981	2.7	2.7	$2,806,000
3.	Control Dust Emissions From Construction and Demolition Projects (P-9)	SCAQMD; 1982	29.6	31.5	$13,566,000
4.	Increased Air Passenger Load Factor (H-1)	Airline Operators, PUC, CAB; 1979	0.9	1.0	*
5.	Jet Aircraft Ground Taxi Improvements (H-2)	Airline Operators, FAA; 1983	---	6.6	*
6.	Modified Work Schedules (H-4)	Public and Private Employers; 1981	0.6	0.2	*
7.	Parking Management: Car-pool Preferential Parking (H-5)	Local Governments, Parking Lot Operators, Employers; 1981	0.1	0.1	*
8.	Electrify Railroad Switching Yards (H-11)	Railroads; 1983	---	1.3	*
9.	Trip Reduction Program (H-13)	SCAG, County Transportation Commissions, Caltrans, Local Governments; 1980	2.3	1.8	*
10.	Increased Bicycle/ Pedestrian Facilities (H-23)	Caltrans, Local Govt., Private Sector; 1980	0.1	0.1	*
11.	Improved Emission Controls for Motor Vehicles (H-24)	ARB, Auto Mfg; 1983	---	20.6	*

TABLE IX-D (Continued)

#	Control Measure	Implementing Agency/ Year of Implementation	Reduction (Tons/Day) 1982	1987	Annualized Cost
12.	Reduce Jet Aircraft Queuing Delays (H-25)	FAA, Airport Operators, Airlines; 1983	---	1.1	*
13.	Rideshare Program (H-34)	Local Governments, Employers, Commuter Computer; 1979	1.8	1.4	*
14.	Improved Trucking Efficiency (H-72)	Trucking Operators, ICC, PUC; 1983	---	0.9	*
15.	Freeway Facility Changes Supporting High Occupancy Vehicles (H-85)	Caltrans, Transit Operators; 1983	---	0.2	*
16.	Transit Improvements (H-89)	Transit Operators; 1979	0.2	0.1	*
17.	Future Improvement of Technological Controls for Stationary Sources (H-90)	SCAQMD; 1983-1987	---	8.6	Undetermined
	Total		38.7	78.6	$16,652,000

*Costs for these measures are covered in the Hydrocarbon section.

TABLE IX-E

Sulfur Dioxide Control Measures
Recommended Measures

#	Control Measure	Implementing Agency/ Year of Implementation	Reduction (Tons/Day) 1982	1987	Annualized Cost
1.	Petroleum Coke Calcining-80% Reduction (S-1)	SCAQMD; 1982	17.4	17.9	$1,885,000.
2.	Fluid Catalytic Cracking-70% Reduction (S-3)	SCAQMD; 1982	20.1	41.0	$10,611,000.
3.	Refinery Fuel Burning Sources (S-4)	SCAQMD; 1982	5.5	5.5	$2,510,000.
4.	Sulfur Content of Diesel Fuel (S-5)	ARB; 1982	17.8	19.9	$11,340,000.
5.	Electric Power Generating Equipment-60% Reduction (S-6)	SCAQMD; 1982	121.0	135.0	$116,000,000.
			181.8	219.3	$142,346,000.

CHAPTER BY CHAPTER SUMMARY

The Draft AQMP has been prepared, consistent with requirements of the federal Clean Air Act, as amended in 1977, and the state Lewis Air Quality Management Act. It is based on the outline recommended by the California Air Resources Board for preparation of non-attainment plans, and has been extended to include chapters containing additional Lewis Act requirements, as well as requirements contained in guidelines issued by the EPA and U.S. Department of Transportation (see Tables XIII and XIV).

The Plan is divided into 16 chapters. In some instances, particularly in the final chapters, required information will not be available until completion of the Final Plan. Major subjects covered in each chapter are summarized in capsule form and significant tables or figures are presented in the following sections.

CHAPTER I Plan Summary

(This Chapter)

CHAPTER II Introduction

This chapter describes why and how the AQMP was developed. It is divided into four sections: Legal Requirements for Air Quality Planning, Statement of the Problem, Costs of Air Pollution, and Goals and Policies of the AQMP.

The Clean Air Act requires that a plan be developed by January 1979 to attain all federal air quality standards by 1982, with possible extensions to 1987 for automobile-related pollutants. Failure to develop or implement such a plan will result in the loss of federal funding to the region, according to the Act. California's Lewis Air Quality Management Act had earlier established a planning process in the South Coast Basin which would require the development of a plan by January 1979 to attain state standards and, as the designated implementation plan for the Basin, federal standards, at the earliest feasible date.

Both the federal and state governments have established air quality standards. (See Table X.) Primary standards are designed to protect the public health with an adequate margin of safety, while secondary standards protect the public welfare. Federal attainment

TABLE X

AMBIENT AIR QUALITY STANDARDS

– 1976 –

CONTAMINANT	AVERAGING TIME	— STANDARDS — FEDERAL Primary	FEDERAL Secondary	STATE
OXIDANT, PPM (OZONE)	1 HOUR	(0.08) **	SAME	0.10
CARBON MONOXIDE, PPM.	12 HOURS	----	----	10
	8 HOURS	(9)	SAME	----
	1 HOUR	(35)	SAME	40
NITROGEN DIOXIDE, PPM.	ANNUAL	0.05	SAME	----
	1 HOUR	----	----	0.25
SULFUR DIOXIDE, PPM.	ANNUAL	0.03	----	----
	24 HOURS *	0.14	----	( )
	3 HOURS	----	0.50	----
	1 HOUR	----	----	0.50
NON-METHANE HYDROCARBONS, PPM.	3 HOURS (6-9 A.M.)	0.24	SAME	----
HYDROGEN SULFIDE, PPM.	1 HOUR	----	----	0.03
ETHYLENE, PPM.	8 HOURS	----	----	0.1
	1 HOUR	----	----	0.5
PARTICULATE MATTER, ug/m^3	ANNUAL (AGM)	75	(60)	(60)
	24 HOURS	260	150	(100)
SULFATES, ug/m^3	24 HOURS	----	----	25
LEAD, ug/m_3	30 DAYS	----	----	1.5
VISIBILITY REDUCING PARTICLES	1 OBSERVATION	----	----	In sufficient amount to reduce the prevailing visibility to less than 10 miles when the relative humidity is less than 70%

* On June 29, 1977, the ARB adopted a new state standard for sulfur dioxide of 0.05 ppm, 24-hour average, occurring in combination with a violation of the state oxidant or TSP standards.

** EPA has proposed changing the standard from .08 ppm to .10 ppm.

deadlines apply to primary standards, but secondary standards are to be attained as expeditiously as practicable. Oxidants, nitrogen dioxide, sulfur oxides, and particulates all adversely affect the lung, and other respiratory functions. High carbon monoxide levels impair central nervous system functions.

Although no studies have been undertaken exclusively for the South Coast Basin on the costs of air pollution, it was possible for an economic consultant to the AQMP to derive estimates for the region from other studies. This analysis indicated that the direct costs of pollution in the Basin in 1978 ranged between one and a half and two billion dollars. These figures did not include aesthetic costs nor damages to animal health.

Chapter II describes the goals and policies which the AQMP was designed to achieve (see Table IV of this summary). Future plan revisions will aim at establishing emission reduction by geographic areas and emission reduction targets by source categories.

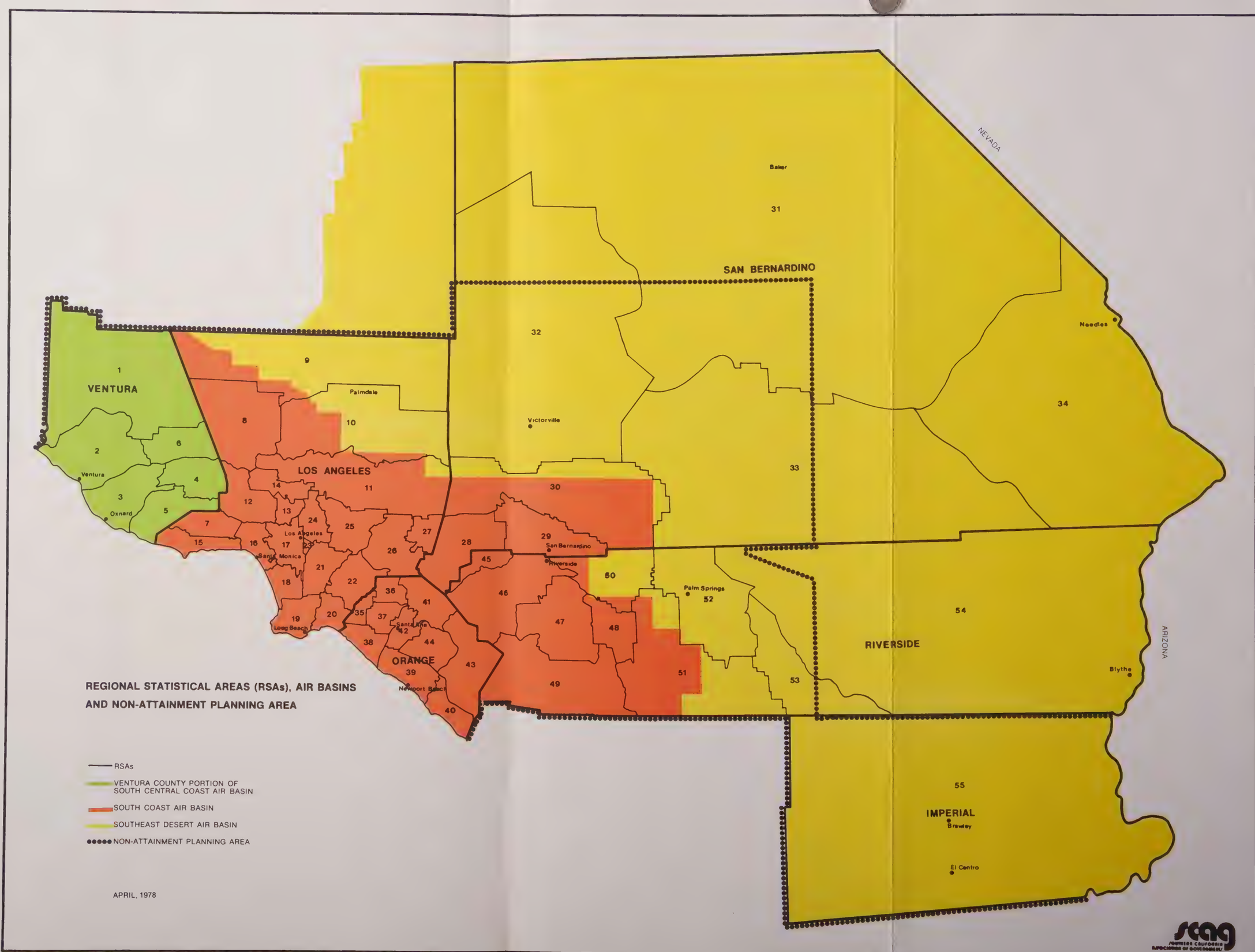
CHAPTER III Governmental Setting

Both the Clean Air Act and the Lewis Air Quality Management Act require demonstration of public participation and local government involvement in plan preparation. Chapter III describes the agencies involved in plan preparation, the role of the public, the relationship between air quality planning and other regional planning programs, and the review and approval process. The Lewis Act requires SCAQMD and SCAG to develop an AQMP for the South Coast Air Basin. This process was reconfirmed with the joint designation of these agencies by the ARB to prepare the Basin nonattainment plan required by the Clean Air Act Amendments of 1977. A process for resolving any conflicts between the two agencies prior to submittal was developed in a memorandum of agreement between the two agencies. Cities and counties in the Basin are involved in AQMP planning through subregional agencies and coordinating councils. Citizen involvement has been sought through an Advisory Council and through public hearings and workshops.

CHAPTER IV Description of the Planning Area

Roughly 45 percent of the state's population lives in the South Coast Air Basin. Concentrated in the coastal counties the Basin's residents occupy only 1 percent of the state's total area and concentrated in the coastal counties. The climate and meteorology of the Basin are determined by the geographical location and terrain, a coastal plain interspersed with low hills bounded by mountains and the Pacific Ocean.

Figure 4: Non-Attainment Planning Areas Facing Page


NEVADA
Baker
31
SAN BERNARDINO
32
Needles
34
1
VENTURA
9
Palmdale
8
10
Victorville
2
6
33
Ventura
LOS ANGELES
4
14
11
30
3
12
13
24
25
27
28
29
5
Oxnard
7
15
16
17
23
26
45
San Bernardino
Riverside
Los Angeles
Santa Monica
50
Palm Springs
52
18
21
22
36
41
46
54
19
20
35
37
42
47
48
RIVERSIDE
Long Beach
Santa Ana
38
44
ORANGE
43
39
51
Blythe
53
Newport Beach
49
40
ARIZONA
55
IMPERIAL
Brawley
El Centro
REGIONAL STATISTICAL AREAS (RSAs), AIR BASINS
AND NON-ATTAINMENT PLANNING AREA
RSAs
VENTURA COUNTY PORTION OF
SOUTH CENTRAL COAST AIR BASIN
SOUTH COAST AIR BASIN
SOUTHEAST DESERT AIR BASIN
NON-ATTAINMENT PLANNING AREA
APRIL, 1978
scag

Adjacent non-attainment planning areas include Ventura County and the portions of the Southeast Desert Air Basin in Riverside, San Bernardino and Los Angeles counties. Imperial County, also in the SCAG region, is a nonattainment planning area for oxidant. A map showing the South Coast Air Basin, the South East Desert Air Basin, the South Central Air Basin, the SCAG Region and the AQMP modelling region is shown as Figure 4.

The region's climate, tempered by cool sea breezes, is mild, but it is interrupted infrequently by periods of extremely hot weather, winter storms or Santa Ana winds. Vertical dispersion of air pollutants in the Basin is hampered by the presence of a persistent temperature inversion in the layers of the atmosphere near the surface of the earth.

CHAPTER V Existing Air Quality-Baseline: 1976

On virtually every day in 1976 one or more of the state and federal air quality standards was exceeded at some location in the South Coast Air Basin. (See Table XI).

Photochemical oxidant is the worst contaminant problem in the Basin, with highest concentrations occurring along the base of the San Gabriel Mountains and in the San Bernardino-Riverside area (see Figure 5). The federal standard was exceeded on 204 days in 1976.

Carbon monoxide violations were reported on 118 days in Los Angeles County, with Burbank recording the highest reading (see Figure 6). Highest nitrogen dioxide readings occurred in densely populated portions of Los Angeles County, with West Los Angeles recording 55 days in excess of standards (see Figure 7).

Federal SO_2 standards were met in the Basin in 1976. However, the state's 24-hour average standard was violated 28 days at Fontana (see Figure 8). Federal total suspended particulate standards were exceeded 12% of the time in Chino (see Figure 9). State standards were violated more frequently. Levels of lead, a state regulated pollutant, exceeded standards every month at Pasadena. Sulfate, another state standard, was not met 11 percent of the time in Lennox. Table VI is a summary of the maximum air pollution levels for 1976 compared to the most stringent air quality standards.

In order to determine a control strategy to reduce the above pollutant levels sufficiently to comply with federal and state requirements, it is necessary to know the baseline emissions inventory and the existing control strategies. Both are described in this chapter.

In 1976, stationary sources accounted for most of the particulate and sulfur dioxide emissions, and a substantial portion of the hydrocarbon and nitrogen dioxide emissions. Carbon monoxide was emitted almost solely from mobile sources. For a description of baseline emissions by major source, see Table XI.

TABLE XI

MOST STRINGENT AIR QUALITY STANDARDS AND MAXIMUM CONCENTRATIONS FOR 1976

CONTAMINANT	MOST STRINGENT STANDARD	SCAB 1976 MAXIMUM READING
PHOTOCHEMICAL OXIDANTS O_3	0.08 PPM 1-HOUR AVERAGE	0.38 PPM
CARBON MONOXIDE (CO)	9.0 PPM 8-HOUR AVERAGE	26.3 PPM
NITROGEN DIOXIDE (NO_2)	0.25 PPM 1-HOUR AVERAGE 0.05 PPM AAM	0.53 PPM 0.076 PPM
SULFUR DIOXIDE (SO_2)	** 24-HOUR AVERAGE	0.100 PPM
PARTICULATE MATTER (TSP)	100 ug/m^3 24-HOUR AVERAGE	1988 (601)* ug/m^3 1363 (424) ug/m^3
SULFATE (SO_4)	25 ug/m^3 24-HOUR AVERAGE	44.3 ug/m^3
LEAD (Pb)	1.5 ug/m^3 MONTHLY AVERAGE	10.04 ug/m^3
VISIBILITY	NUMBER OF DAYS WITH VISIBILITY LESS THAN TEN MILES WITH RELATIVE HUMIDITY LESS THAN 70%	261 DAYS

* NUMBER IN PARENTHESES IS THE SECOND HIGHEST VALUE FOR THE SAME STATION.

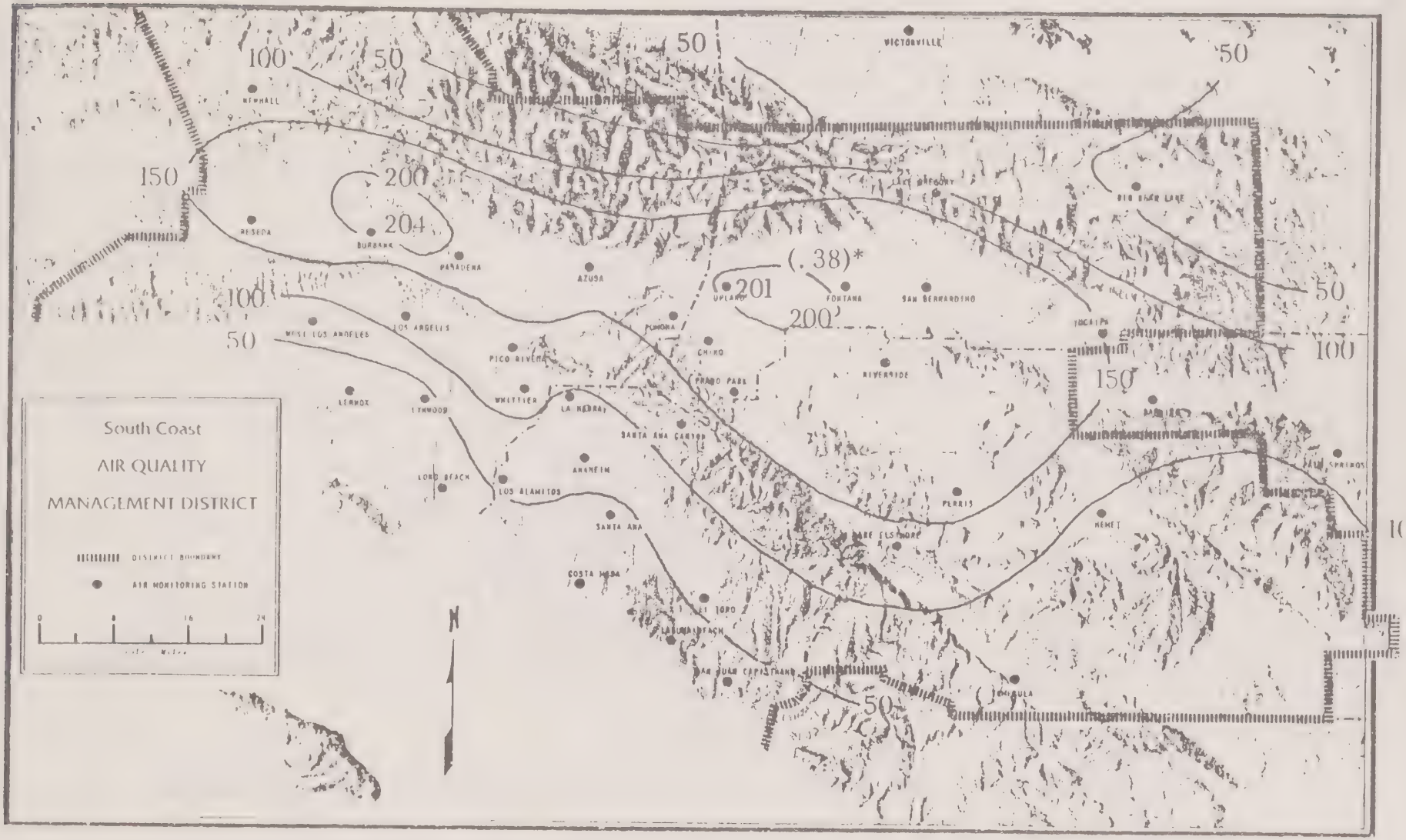
** On June 29, 1977, the ARB adopted a new state standard for sulfur dioxide of 0.05 ppm/24-hour average, occurring in combination with a violation of the state oxidant or TSP standards.

FIGURE 5

OXIDANT

NUMBER OF DAYS VIOLATING FEDERAL STANDARD (1-HR. AVG. O_3 > 0.08 PPM)

1976



• Less than 9 months of data

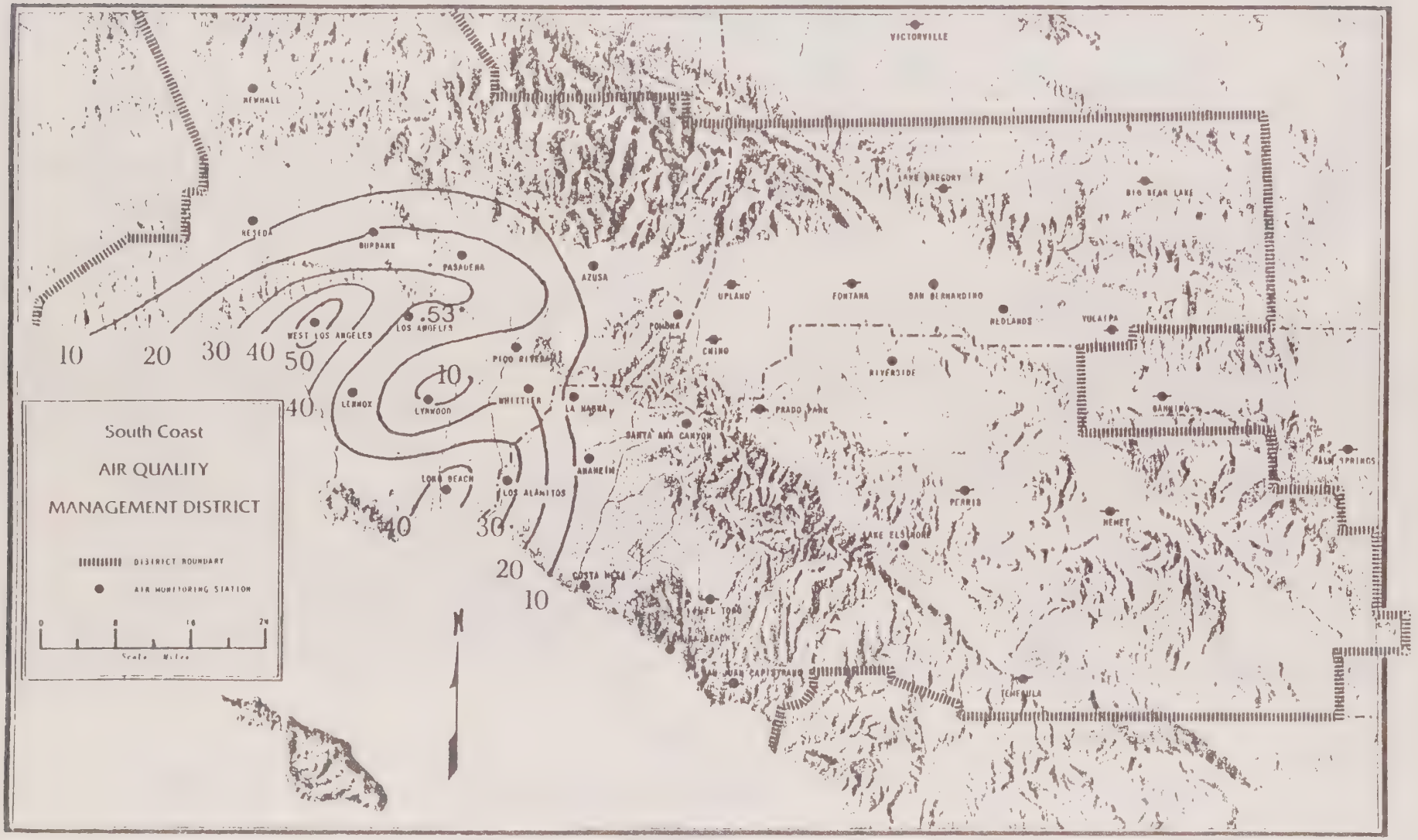
* Highest reading for year - June 20...Fontana ; Aug. 30...Upland

FIGURE 6

NITROGEN DIOXIDE

NUMBER OF DAYS VIOLATING STATE STANDARD (1-HR. AVG. $NO_2 \geq 0.25$ ppm)

1976



• Less than 9 months of data.

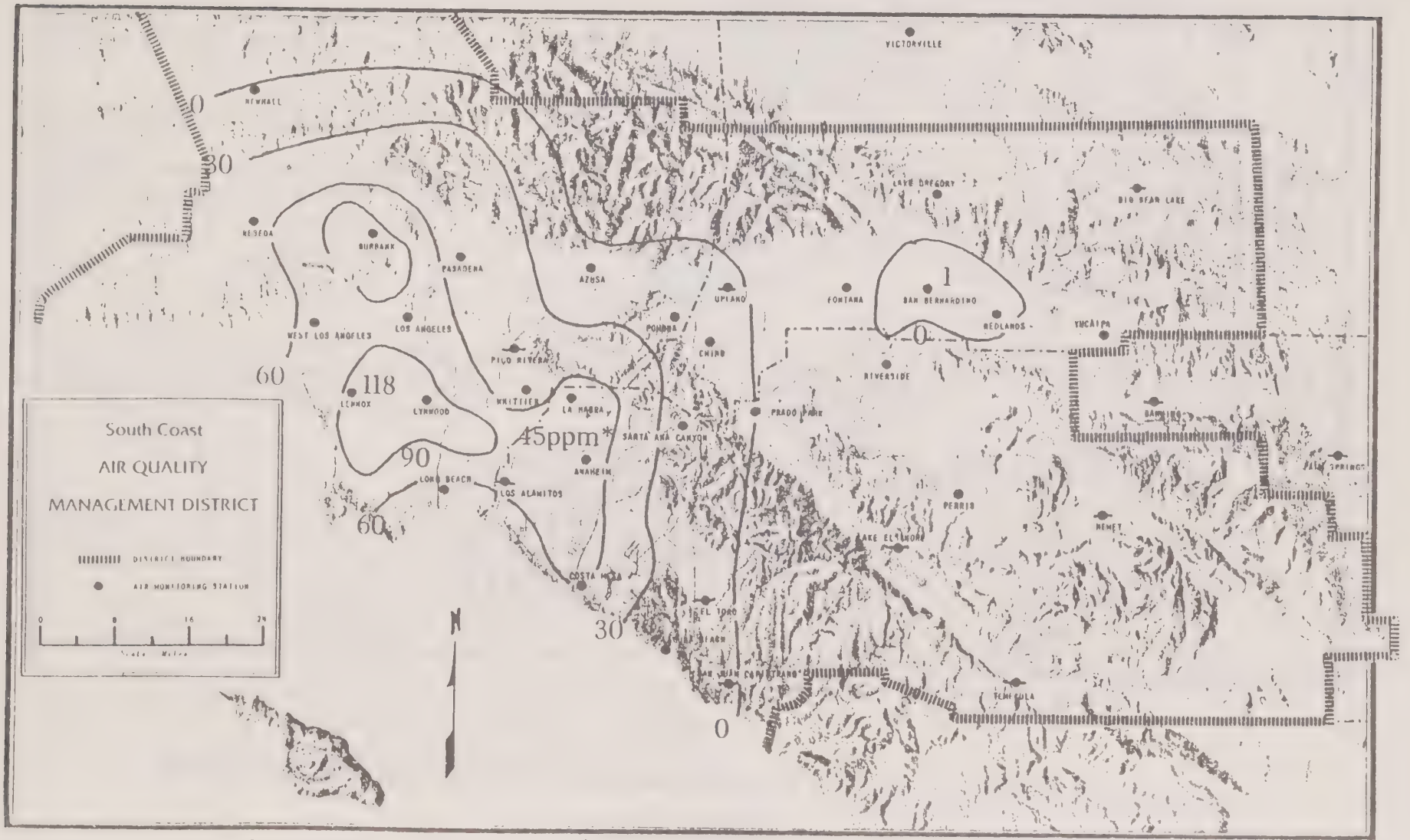
* Highest reading for year... Los Angeles

FIGURE 7

CARBON MONOXIDE

NUMBER OF DAYS VIOLATING FEDERAL STANDARD (8-HR. AVG. CO > 9 PPM)

1976



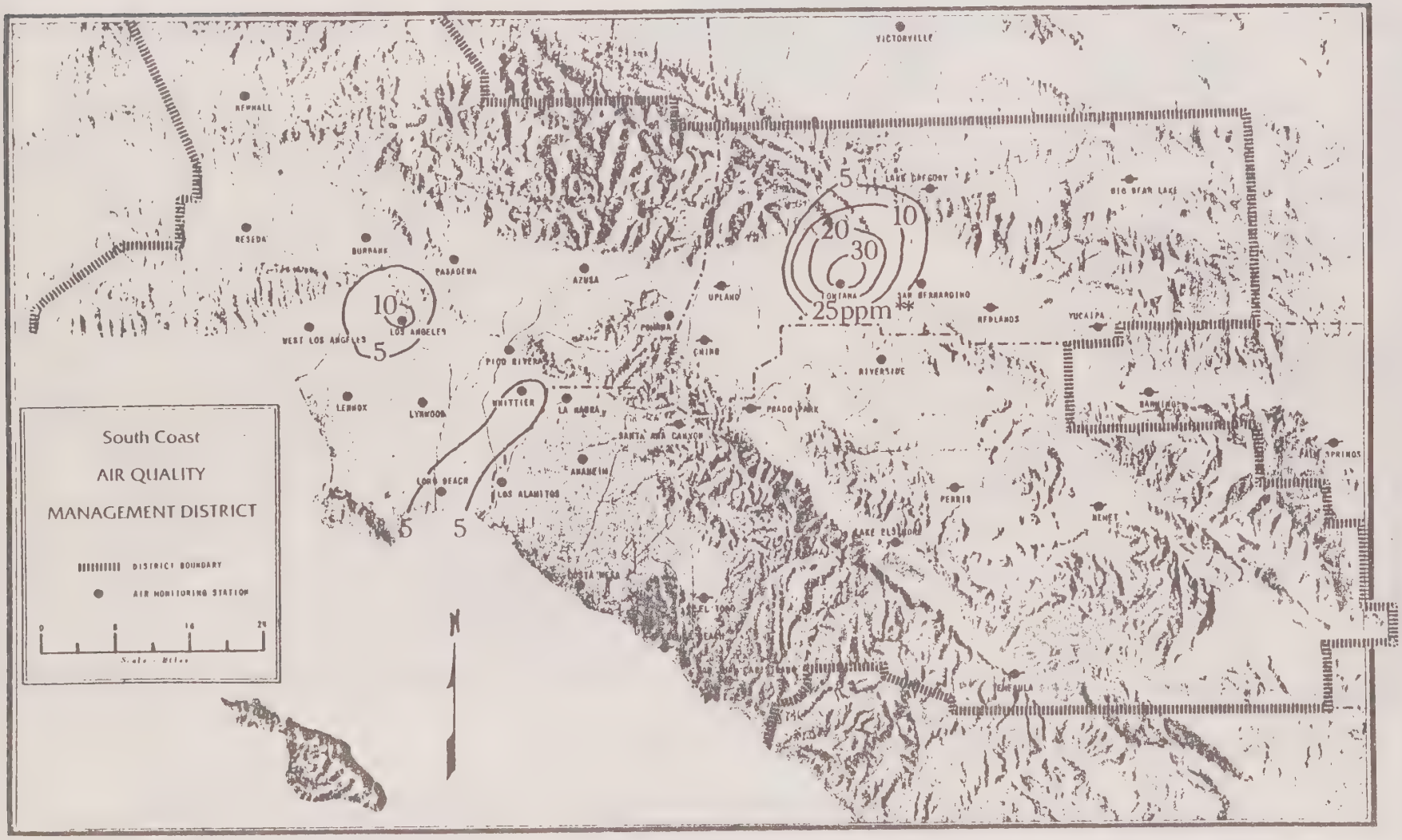
- Less than 9 months of data
* Highest reading for year...Dec. 1, La Habra

FIGURE 8

SULFUR DIOXIDE

NUMBER OF DAYS VIOLATING STATE STANDARD (24 HR. AVG. $SO_2 \geqq 0.04$ PPM)*

1976



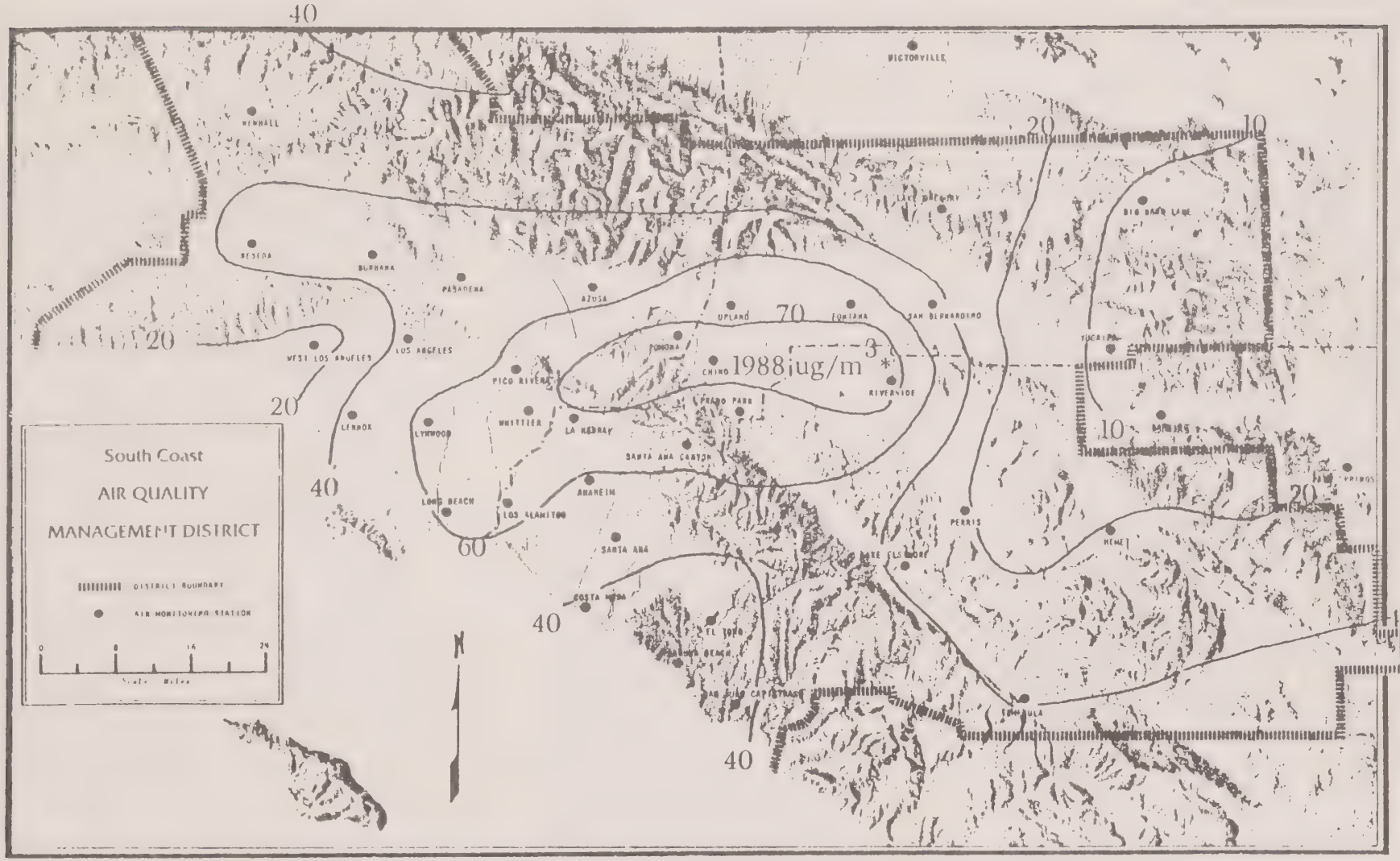
- Less than 9 months of data
  Number of days violating standard at Fontana revised to reflect corrections in data.
- * On June 29, 1977 the ARB adopted a new state standard for sulfur dioxide of 0.05 ppm/24-hour average, occuring in combination with a violation of the state oxidant or TSP standards.
- ** Highest reading for year... Aug. 28, Fontana ... Max. 1 hour average

FIGURE-9

TOTAL SUSPENDED PARTICULATE

(PERCENT OF DAYS VIOLATING STATE AIR QUALITY STANDARD (TSP ≥ 100 ug/m3)

1976



- Indicates air monitoring station where pollutant is measured.
- Indicates less than a full year's data.
- Highest reading for year. . . Oct. 27, Chino
  (note. . . second highest reading for same station was 601 ug/m3 . . . high reading of 1988 ug/m3 was attributed to abnormaly high wind speeds and dust)

CHAPTER VI Best Available Technological and Administrative Practices

Under the Lewis Act, the District was required to adopt, by the end of 1977, rules reflecting the best available technological and administrative practices. When fully implemented, these rules will reduce total hydrocarbons and nitrogen dioxide by more than 100 tons per day, and slightly reduce sulfur dioxide and particulates.

These emission reduction measures will be included in the AQMP demonstration of adoption of all reasonably available control measures for stationary sources and significant reductions in emissions in the early years of plan implementation, as required by the Clean Air Act. Additional measures adopted through July 1, 1978 are also included.

CHAPTER VII Forecasts: 1982 and 1987

To project future emissions it is necessary to specify a certain scenario. Future assumptions used for the AQMP in estimating air quality in 1982 and 1987 are based on a set of population, housing, employment and land use projections derived through the SCAG Development Guide process, and rely to a large extent on local government forecasts. The assumed transportation system is based on SCAG's Regional Transportation Plan. Industrial growth was assessed through special studies, and control factors, assuming present regulations, were applied. The methodology for making these forecasts is described in Chapter VII. Table XII is a summary of projected emissions based on these forecasts. Figures 10a through 10e show the sources in the 1987 forecast of each pollutant: RHC, NO_X, CO, SO_X, TSP, respectively.

CHAPTER VIII Modeling and Evaluation

Procedures through which the Draft AQMP estimates future air quality are described in this Chapter. Emission levels that will allow attainment of federal and state air quality standards, and the needed reductions from projected 1987 emissions, are presented. See Table VII for a summary.

Table XI

BASE YEAR EMISSIONS* - 1975-76

BY MAJOR SOURCE CATEGORY (TONS/DAY)

AVERAGE SUMMER WEEKDAY

SCAB

SOURCE	THC			RHC			CO		NO_x		SO_x		PART	
	TONS/DAY	% of Man-Made	% of TOTAL	TONS/DAYS	% of Man-Made	% of TOTAL	TONS/DAYS	% of TOTAL	TONS/DAYS	% of TOTAL	TONS/DAYS	% of TOTAL	TONS/DAYS	% of TOTAL
STATIONARY (Area + Point)	676	38.9	23.5	510	34.5	30.1	215	2.6	464	36.2	313	81.9	150	56.2
On-Road Mobile	969	55.8	33.8	884	59.8	52.2	7699	91.2	694	54.1	37	9.7	94	35.2
Off-Road Mobile	92	5.3	3.2	84	5.7	5.0	527	6.2	125	9.7	32	8.4	23	8.6
Subtotal (Man-Made)	1737	100.0		1478	100.0		8441	100.0	1283	100.0	382	100.0	267	100.0
Natural Sources *	1132		39.5	215		12.7								
TOTAL	2869		100.0	1693		100.0	8441	100.0	1283	100.0	382	100.0	267	100.0

* Includes vegetative, landfills and animal waste.

Table XII

PROJECTED EMISSIONS* - 1987

BY MAJOR SOURCE CATEGORY (TONS/DAY)

AVERAGE SUMMER WEEKDAY

SCAB

SOURCE	THC			RHC			CO		NO_x		SO_x***		PART	
	TONS/DAY	% of Man-Made	% of TOTAL	TONS/DAYS	% of Man-Made	% of TOTAL	TONS/DAYS	% of TOTAL	TONS/DAYS	% of TOTAL	TONS/DAYS	% of TOTAL	TONS/DAYS	% of TOTAL
STATIONARY (Area + Point)	531	51.0	24.4	360	44.2	34.9	252	6.1	543	46.8	316	79.0	184	64.6
On-Road Mobile	399	38.3	18.4	354	43.4	34.4	3176	77.5	474	40.8	46	11.5	70	24.6
Off-Road Mobile	111	10.7	5.1	101	12.4	9.8	674	16.4	144	12.4	38	9.5	31	10.8
Subtotal (Man-Made)	1041	100.0		815	100.0		4102	100.0	1161	100.0	400	100.0	285	100.0
Natural Sources**	1132		52.1	215		20.9								
T O T A L	2173		100.0	1030		100.0	4102	100.0	1161	100.0	400	100.0	285	100.0

* Assumes currently mandated rules and regulations.

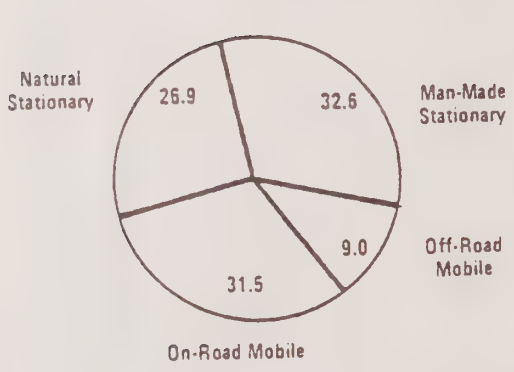
** Includes vegetative, landfills and animal waste.

*** These projections assume the non-availability of significant amounts of natural gas for use in power plants. A more generous assumption on natural gas availability was used in the District's Sulfur Dioxide/Sulfate Control Study; this would result in lower projections of sulfur dioxide emissions.

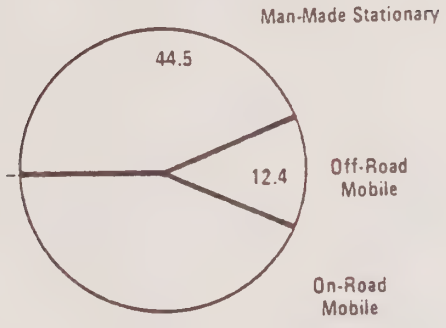
FIGURE 10a

REACTIVE HYDROCARBONS
SOURCE CATEGORY PERCENTAGES *
1987 - SCAB AND VENTURA COUNTY

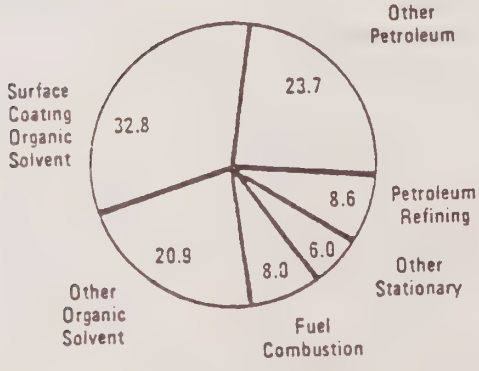
Percentage of Total
Tons/Day: 1179



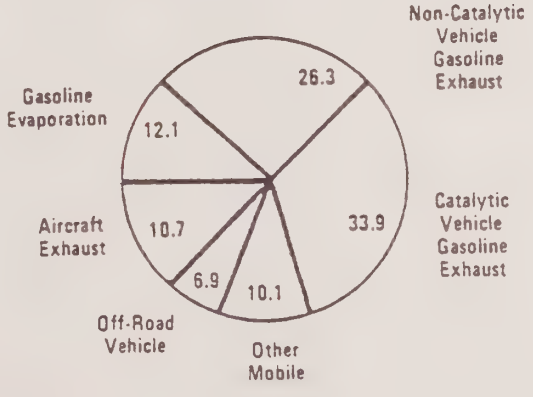
Percentage of Man-Made Total
Tons/Day: 862



Percentage of Man-Made Stationary
Tons/Day: 383



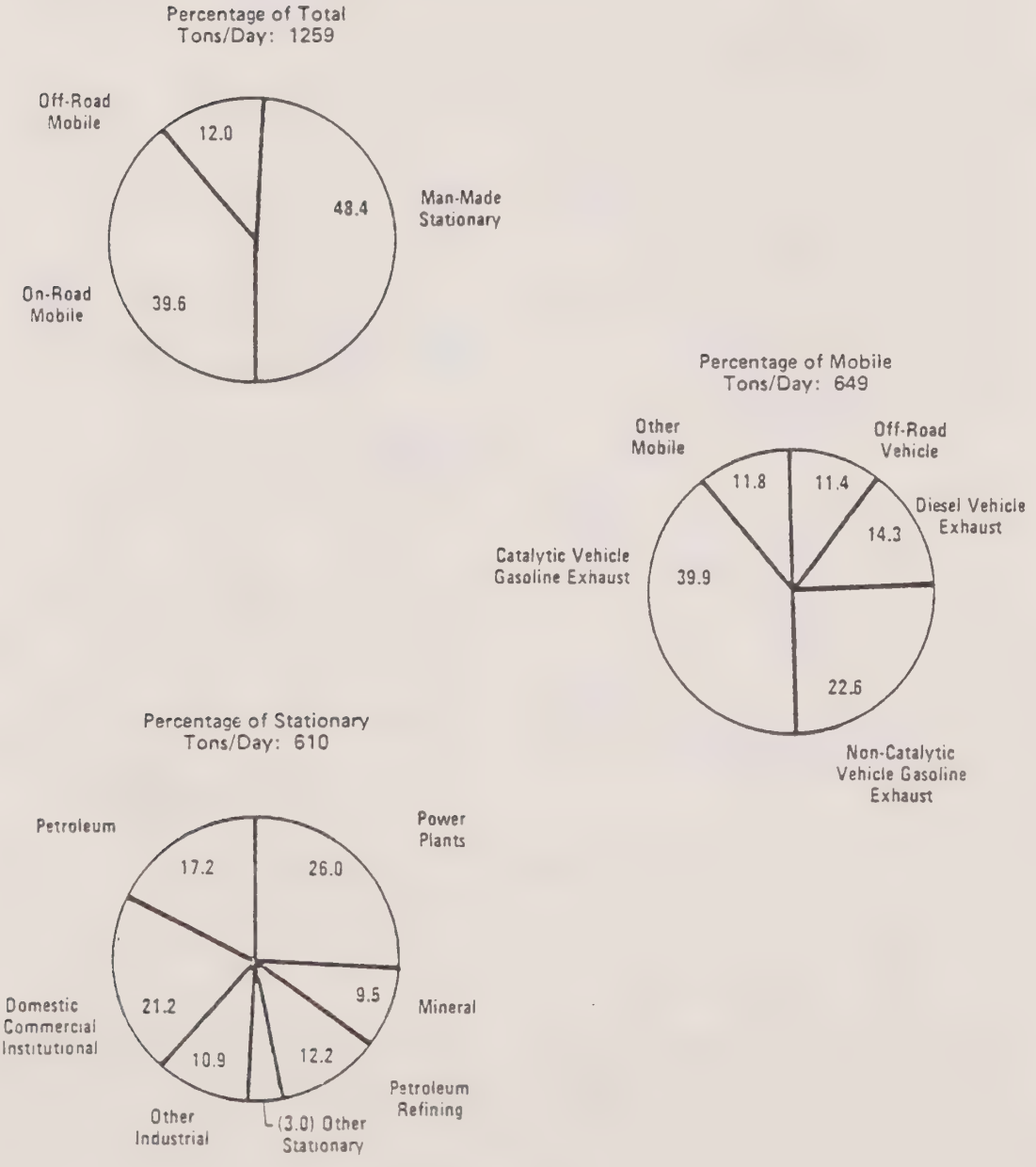
Percentage of Mobile
Tons/Day: 479



* Average Summer Weekday

FIGURE 10b

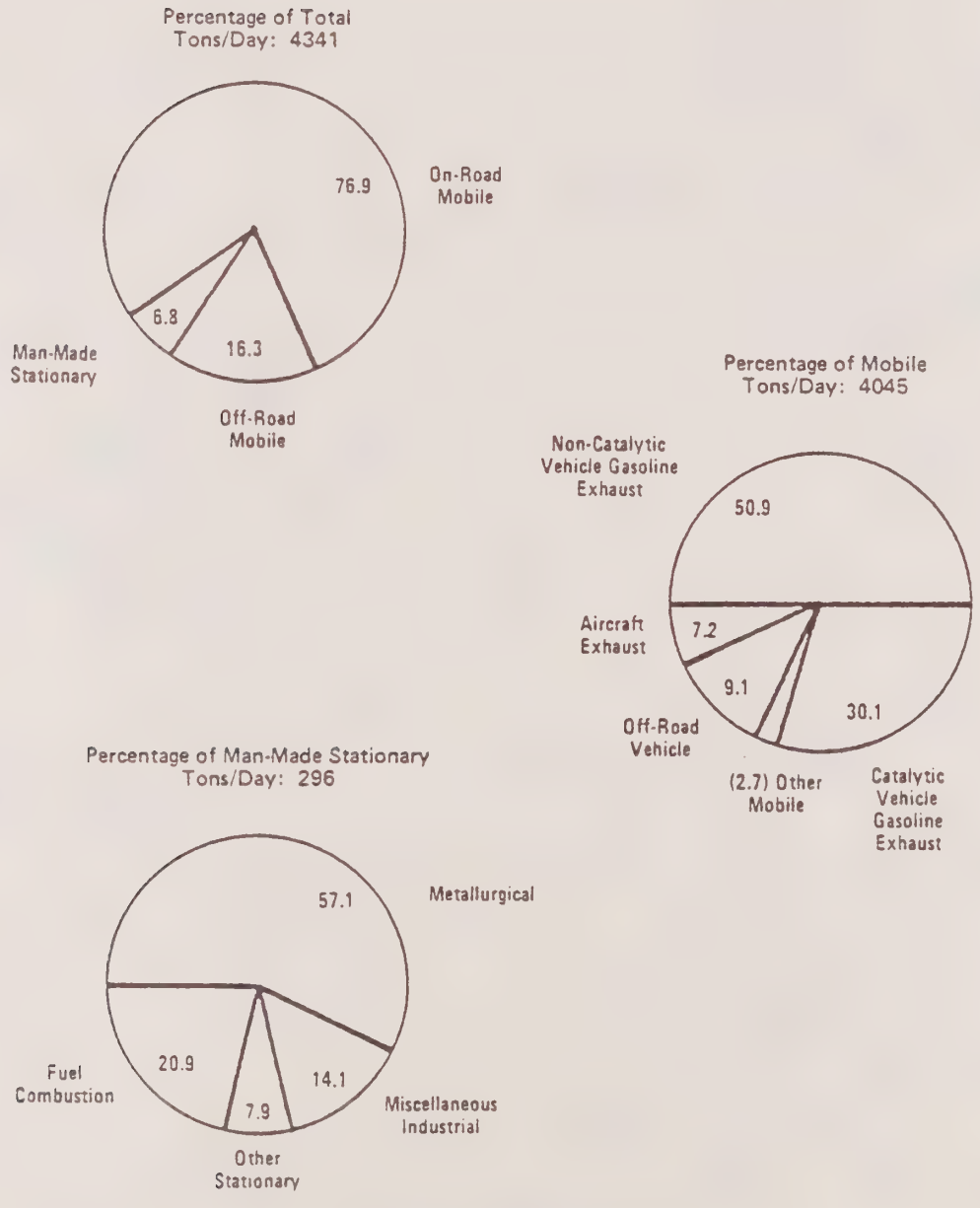
OXIDES OF NITROGEN
SOURCE CATEGORY PERCENTAGES*
1987 - SCAB AND VENTURA COUNTY



* Average Summer Weekday

FIGURE 10c

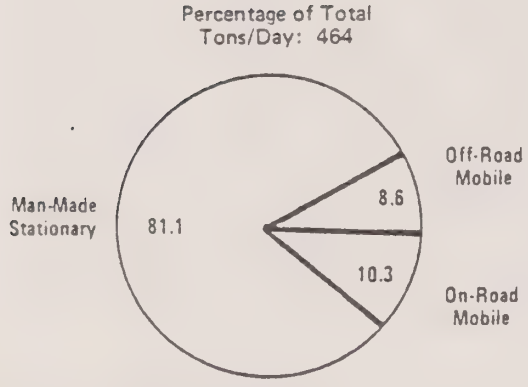
CARBON MONOXIDE
SOURCE CATEGORY PERCENTAGES*
1987 - SCAB AND VENTURA COUNTY

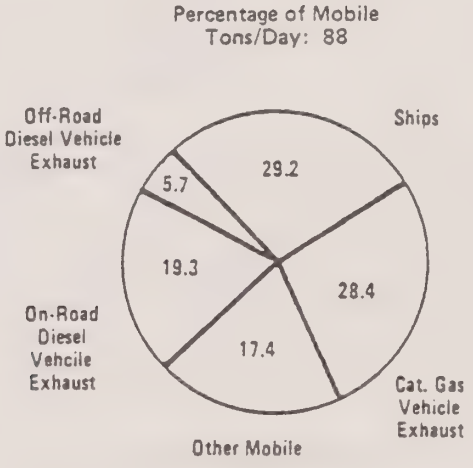


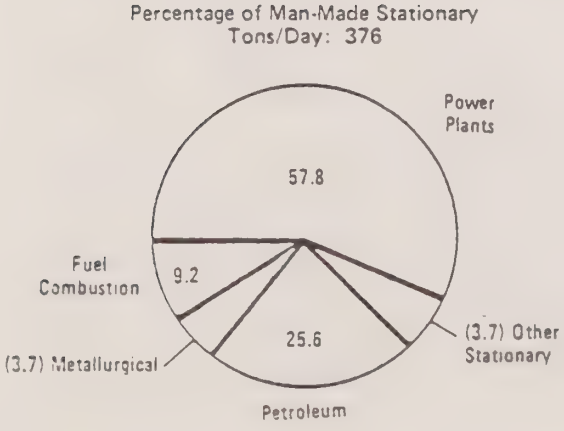
* Average Summer Weekday

FIGURE 10d

SULFUR OXIDES
SOURCE CATEGORY PERCENTAGES*
1987 - SCAB AND VENTURA COUNTY



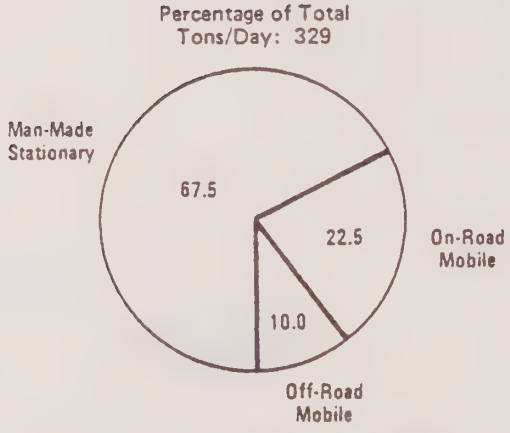


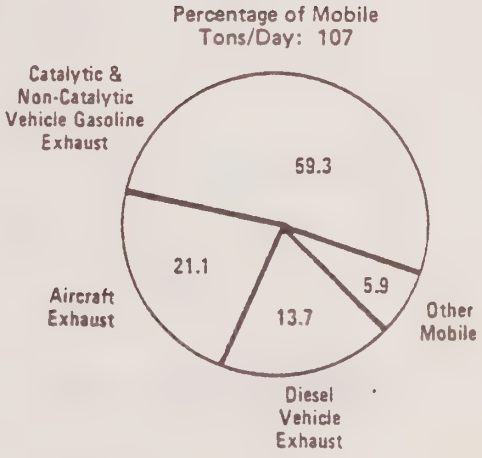


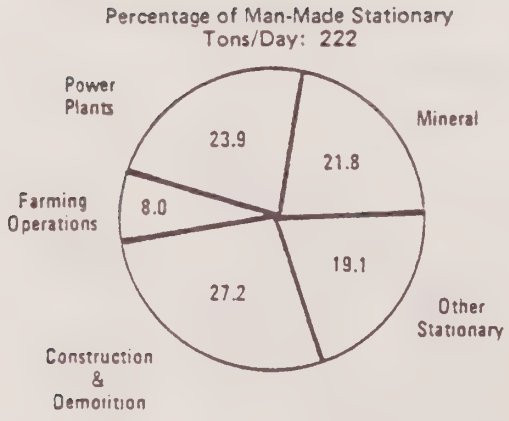
* Average Summer Weekday

FIGURE 10e

TOTAL SUSPENDED PARTICULATE
SOURCE CATEGORY PERCENTAGES*
1987 - SCAB AND VENTURA COUNTY







*Average Summer Weekday

CHAPTER IX Control Strategies

The Clean Air Act requires the adoption of all reasonably available control measures as a condition for an extension to 1987 for compliance with the oxidant and carbon monoxide standards. It also requires an analysis of the air quality, health, welfare, economic, energy and social effects of the plan provsions. Cost effectiveness is an important factor in deciding on the reasonableness of measures, but, other factors must be considered. This chapter describes the methodology developed by AQMP to provide a uniform analytical framework through which each agency could evaluate the impact of each tactic. It also describes the process through which decision makers will determine the reasonableness of proposed measures. Both recommended and non-recommended control strategies, including a description of impact, are presented. For a summary of recommended measures see Table IX of this summary. Adoption of all proposed measures would result in attainment of ozone, carbon monoxide and nitrogen dioxide federal standards by 1987. (Note: federal deadline for nitrogen dioxide is 1982). Particulate standards would be attained if natural background levels (e.g. wind blown sand) are excluded.

CHAPTER X Subregional Plans

Under requirements of state law, SCAG designated subregional agencies in each of the four counties of the South Coast Air Basin to prepare plans. Five governmental units were designated: the Boards of Supervisors of the Counties of Riverside, Los Angeles, San Bernardino, and Orange, and the City Council of Los Angeles. This section briefly describes the procedure used by each subregional agency in developing its plan, and lists the control measures recommended by the agency for consideration in the AQMP process.

CHAPTER XI Request for Extension to 1987

In areas where the adoption of all reasonably available control measures will not result in the attainment of federal primary oxidant and carbon monoxide standards by 1982, the Clean Air Act permits plans to request a deadline extension to 1987. This chapter describes the following conditions which must be met to obtain this extension: Program for Pre-Permit Review of Major Facilities, Motor Vehicle Inspection Program; and commitment to use funds for public transportation.

Any request in a non-attainment plan for a 1987 extension must include a special program which will weigh the benefits and analyze the alternatives to prospective major sources (as defined under section 173 of the CAAA of 1977). To meet this requirement, the SCAQMD currently requires a permit application from any person, business firm or public entity planning to construct, modify or operate equipment which may discharge emissions to the atmosphere. The permit is granted only after a determination that operation of the equipment will not violate District rules. This section describes changes which should be made in this permit process to insure compliance with the Clean Air Act.

A motor vehicle inspection program is required before approval of the 1987 extension. A three stage motor vehicle inspection program for the South Coast Air Basin was authorized by the California Legislature in 1973. Stage one, a pilot program to resolve fundamental technical and administrative problems, has been completed. Mandatory inspection of vehicles and mandatory conformance of vehicles to state specifications upon change of ownership is underway and mandatory annual inspection and conformance for all vehicles in the basin for re-registration is scheduled to begin in 1981.

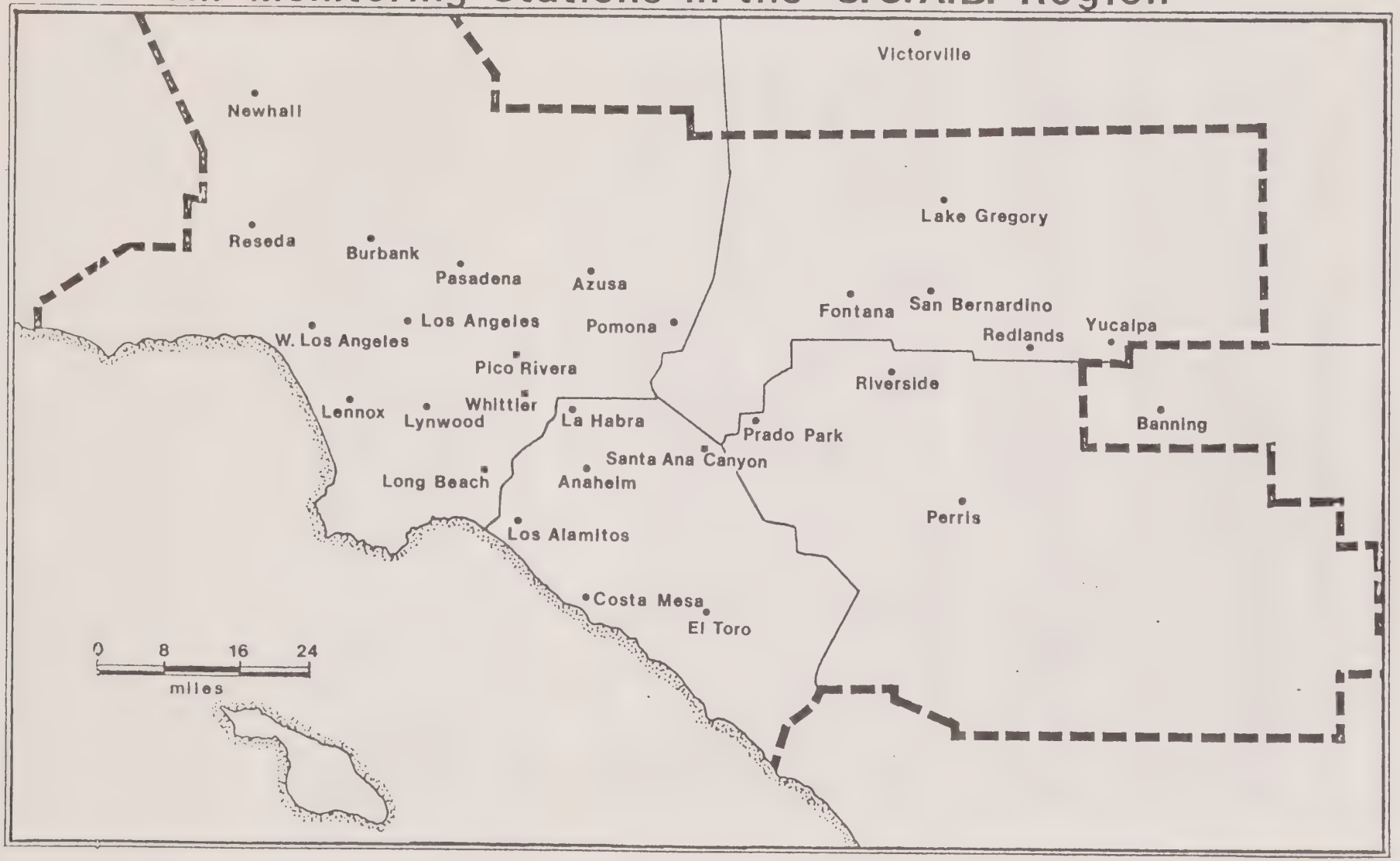
In addition to statutory requirements for 1987 extension, the Department of Transportation requires transportation planning agencies to demonstrate a commitment to improve public transportation to meet basic transportation needs and to use available funds to improve public transportation. This section describes the AQMP approach to fulfilling this requirement.

CHAPTER XII Programs to Insure Continued Protection of Public Health

EPA requires demonstration of an air quality monitoring system adequate to determine compliance with air quality standards. This section describes the monitoring program of the SCAQMD. Figure 10 is a map of all current monitoring stations in SCAB.

EPA requirements for an SIP submittal include demonstration of an emergency episode plan which describes action to be taken when air quality reaches severe levels. After the air quality standards are attained, Emergency Episode Plans should not be necessary. The District's current plan, together with proposed changes, is included in this chapter.

figure 10
Air Monitoring Stations in the S.C.A.B. Region



CHAPTER XIII Implementation Program

Non-attainment plans are required by the CAA to identify and commit the financial and manpower resources necessary to carry out the plan provisions. The AQMP identifies the agencies responsible for implementing all approved measures. The final AQMP will contain an assessment of the agencies' ability to assume additional financial responsibilities, and will document potential sources of additional funds.

For any measure identified for inclusion within the Plan there must be a demonstration that adequate implementation authority is in place or scheduled. Proposals for additional legislation needed to implement the Plan are listed here.

Following submission of the AQMP, the Clean Air Act requires planning agencies to submit reports demonstrating that they are making "reasonable further progress" (RFP) towards attaining standards. RFP is defined by the Act as annual incremental reductions in emissions in each pollutant, with substantial reductions in the early years. Procedures for reporting this reduction include documentation of yearly reductions and increases in areawide emissions on a tons per year basis. Failure to stay within the estimated yearly reduction will require midcourse corrections or the substitution of additional measures to insure that total emission reductions result in attainment of the ambient air standards by the legal compliance dates. Such corrections would occur in the biannual revisions of the Plan, with the 1982 Plan being particularly important.

CHAPTER XIV Summary of Public Comment

The CAA requires the non-attainment plan to "evidence public, local governments, and State Legislative involvement and consultation ... an identification and analysis of the air quality, health,welfare, economic, energy and social effects of the plan provisions required by the subsection...and a summary of public comment of this analysis. " Public comments obtained from Advisory Council members, city and county officials and general public will be summarized in this chapter of the final plan.

CHAPTER XV Environmental Impact Report Summary

An EIR in accordance with the California Environmental Quality Act is being prepared on the Preliminary Draft AQMP. A summary of the EIR forms Chapter XVII of the Draft Plan.

CHAPTER XVI Appendices

Related important documents, including the complete sub-regional plans, are incorporated by reference and be on display for public inspection at public depositories listed in this Table XV.

The significant appendices are as follows:

A. Amendment to the SCAG Regional Transportation Plan

B. Los Angeles City Subregional AQMP.

C. Los Angeles County Subregional AQMP.

D. Orange County Subregional AQMP.

E. Riverside County Subregional AQMP.

F. San Bernardino County Subregional AQMP.

G. SCAG Overall Work Program.

H. SCAG Regional Transportation Plan.

Table XIII

EPA REQUIREMENTS FOR PLAN SUBMITTAL

Requirement	AQMP Chapter
Legal Authority to Implement Plan	III, IX, XII
Control Strategy to Attain Standards	IX
Dates for Compliance with Plan Requirements	IX
Emergency Episode Plans	XII
Air Quality Surveillance System	XII
New Source Review Procedures	VI, XI
Monitoring Compliance with Plan Provisions	XII
Description of Resources to Implement Plan	XIII
Identification of Intergovernmental Responsibilities	III, X
District Rules and Regulations	V, VI
Demonstration of Public Notice	III, XIV
Implementation of Reasonably Available Measures	IX
Demonstration of Reasonable Further Progress	XIII
Comprehensive Emissions Inventory	V
Identification of Emissions from New or Modified Sources	VI, VII
Permits for New Sources	XI
Commitment of Financial Resources	XIII
Evidence of Public, Local Government Involvement	III, X, XIV

Table XIII (Continued)

EPA REQUIREMENTS FOR PLAN SUBMITTAL

Requirement	AQMP Chapter
Analysis of Impacts of Tactics	IX,
Evidence of Commitment to Implement	XIII
Requirements for Extension	XI

Table XIV

EPA/DOT REQUIREMENTS FOR PLAN SUBMITTAL

Requirement	AQMP Chapter
Definition of nonattainment area and geographic area covered by transportation control measures;	IV
Accurate, comprehensive and current emissions inventory;	V
Estimation of emission reductions needed to demonstrate standard attainment by 1982 and 1987 (including emission growth projections;) and	VIII
Determination of whether federal new car standards and proposed transportation and stationary source controls demonstrate attainment by 1982. Demonstration of need for attainment deadline extensions to 1987;	XI
Designation and certification of a Lead agency for nonattainment areas;	III
Identification of agency tasks and responsibilities;	III
Schedule for comprehensive alternatives analysis and demonstrations that analysis is underway; (not included in Preliminary Draft)	XIII
Schedule for adoption of reasonably available measures; (not included in Preliminary Draft)	XIII

TABLE XIV (Continued)

EPA/DOT REQUIREMENTS FOR PLAN SUBMITTAL

Requirement	AQMP Chapter
Commitment to justify decision not to adopt difficult, but reasonably available measures;	IX
Process for public, interest group, and elected official consultation and involvement in: defining transportation-air quality issues, establishing the planning process, development and analysis of alternatives;	XIV
Identification of estimated financial and manpower resources necessary to carry out the process described by these guidelines. A commitment to the first year of this process should be demonstrated in the UPWP;	XIII
Evidence that the SIP was adopted by the state after reasonable notice and public hearing;	XIV
Provisions for progress reporting throughout the planning and implementation period;	XII
Additional Transportation-Related Provisions for Areas Unable to Attain by 1982	
Schedule for activities leading to implementations of I/M;	XI

Table XIV (Continued)

EPA/DOT REQUIREMENTS FOR PLAN SUBMITTAL

Requirement	AQMP Chapter
A commitment to use (insofar as is necessary) available grants and funds to establish, expand or improve public transportation measures to meet basis transportation needs as expenditiously as practicable;	XI
UPWP air quality-related transportation planning tasks being performed by each agency during FY 1979;	Appendix G SCAG OWP
Emission reduction estimates for adopted measures and/or packages of measures. Rough estimates of annual emission reductions through 1987 for packages of measures currently being developed and analyzed;	IX
Preliminary identification of analytical methodologies for determining air quality, travel, economic, energy, social etc., effects on plan provisions. Summary of public comment on such methodologies;	IX, XIV, XV
Commitment to: (1) accelerate implementation of transportation improvements in current or recent AE, (2) incremental phase-in of additional reasonable measures;	XI

TABLE XV

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

REGIONAL DEPOSITORIES

LOS ANGELES COUNTY

California State Polytechnic University
3801 W. Temple Avenue
Pomona, CA 91768

California Dept. of Transportation
District 07
120 S. Spring Street
Los Angeles, CA 90012

Los Angeles County Library
Culver City Branch
4975 Overland Avenue
Culver City, CA 90230

California State University
Dominguez Hills Library
1000 E. Victoria Street
Dominguez Hills, CA 90747

L. A. County Public Library
320 West Temple Street
Los Angeles, CA 90012

Rosemead Public Library
8800 Valley Blvd.
Rosemead, CA 91770

University of California
Arch. & Planning Library
415 Hilgard Avenue
Los Angeles, CA 90024

Von Kleinsmid Library
University of Southern California
Los Angeles, CA 90007

Rose Institute of State and Local Government
Claremont Men's College
Claremont, CA 91711

Inglewood Public Library
c/o Serial Pub. & Doc. Division
101 W. Manchester Blvd.
Inglewood, CA 90301

L. A. Minicipal Documents Library
City Hall East, 5th Floor
Los Angeles, CA 90012

University of So. Calif.
Library
Government Documents Department
Doheny Library
Los Angeles, CA 90007

Table XV (Cont'd)

Torrance Public Library
3301 Torrance Blvd.
Torrance, CA 90503

San Pedro Branch Library
931 S. Gaffey
San Pedro, CA 90731

California State University
Northridge Library
18111 Nordhoff Street
Northridge, CA 91324

Whittier Public Library
7344 Washington Ave.
Whittier, CA 90602

Honnold Library
8th & Dartmouth
Claremont, CA 91711

Los Angeles Planning Library
618 City Hall
Los Angeles, CA 90012

UCLA-URL
Public Affairs Service/Local
405 Hilgard Ave.
Los Angeles, CA 90024

Pasadena Public Library
285 East Walnut
Pasadena, CA 91101

Pomona Public Library
625 South Garey Ave.
Pomona, CA 91766

San Fernando Public Library
102 Mac Neil
San Fernando, CA 91340

California State University
Long Beach Library
1250 Bellflower Blvd.
Long Beach, CA 90840

West Covina Public Library
1601 W. Covina Parkway
West Covina, CA 91790

Hawthorne Public Library
12735 Hawthorne Blvd.
Hawthorne, CA 90250

Glendale Public Library
222 E. Harvard Street
Glendale, CA 91205

Los Angeles Public Library
Business & Economic Department
630 Fifth Street
Los Angeles, CA 90017

Downey City Library
8490 3rd Street
Downey, CA 90241

Pepperdine University Library
24255 Pacific Coast Highway
Malibu, CA 90265

Table XV (Cont'd)

ORANGE COUNTY

Anaheim Public Library
500 West Broadway
Anaheim, CA 92805

California State University
Fullerton Library
800 N. State College Blvd.
Fullerton, CA 92634

Tustin Branch Library
Tustin Civic Center
Centennial at Main
Tustin, CA 92680

Orange County Rapid Transit
District
1200 North Main Street, Box 688
Santa Ana, CA 92702

Orange County Main Library
11200 Standord Street
Garden Grove, CA 92640

Orange Public Library
101 North Center Street
Orange, CA 92666

Santa Ana Public Library
26 Civic Center Plaza
Santa Ana, CA 92701

Newport Beach Public Library
2005 Dover Drive
Newport Beach, CA 92660

Government Publications Dept.
The University Library
University of California
Irvine, CA 92713

County of Orange
Environmental Management Agency
400 Civic Center Drive
Santa Ana, CA 92701
Attn: Development Division

Huntington Beach Public Library
7111 Talbert Avenue
Huntington Beach, CA 92647

SAN BERNARDINO COUNTY

San Bernardino County Library
104 West 4th Street
San Bernardino, CA 92401

Ontario City Library
215 East "C" Street
Ontario, CA 91764

California Dept. of Transportation
District 08, Library
247 Third Street
San Bernardino, CA 92403

California State University
San Bernardino Library
5500 State College Parkway
San Bernardino, CA 92407

San Bernardino City Library
402 North Arrowhead Ave.
San Bernardino, CA 92401

Table XV (Cont')

VENTURA COUNTY

Conejo Library
191 West Wilburn Road
Thousand Oaks, CA 91360

Ventura County Library
Services Agency
651 East Main Street
Ventura, CA 93001

Oxnard Public Library
214 South "C" Street
Oxnard, CA 93030

Simi Library
3150 Los Angeles Avenue
Simi, CA 93065

RIVERSIDE COUNTY

Corona Library
650 South Main Street
Corona, CA 91720
Attn: Head Librarian

Riverside City Central Library
3581 Seventh Street
Riverside, CA 92501
Attn: Head Librarian

University of California
Government Publications Dept.
UCR General Library
Riverside, CA 92521

Max T. McCandless Memorial
Library
200 Civic Center Mall
Indio, CA. 92201

IMPERIAL COUNTY

Imperial County Library
247 South Imperial Ave.
Imperial, CA 92251

OUT OF THE REGION

Calif. Dept. of Transportation
1120 'N' Street
Sacramento, CA 95814

Calif. Dept. of Transportation
District 11
2829 Juan Street
San Diego, CA 92128

Table XV (Cont'd)

REGIONAL DEPOSITORIES
SPECIFIC FOR AQMP

Statewide Air Pollution
Research Center
Univ. of Calif. Riverside
Riverside, CA 92521

EPA-Office of External
Relations
300 N. Los Angeles Street
Los Angeles, CA 90012

Medical Library
LAC USC Medical Center
1200 N. State St., Rm. 2050
Los Angeles, CA 90033
Attn: Reference Librarian

U.C. BERKELEY LIBRARIES
C124902999

To reduce the paper waste and costs, you are requested to use the copies of the complete plan which have been placed in 57 libraries which are listed on the last pages of this summary. If you require a personal copy, we will send it to you. Please check the box below:

☐ AQMP Control Strategies (200 p.)

☐ Draft AQMP (500 p.)

Name

Address

City State Zip Code

Place
Stamp
Here

South Coast
AIR QUALITY MANAGEMENT DISTRICT

SOUTHERN CALIFORNIA
ASSOCIATION of GOVERNMENTS

c/o AQMP
600 So. Commonwealth #1000
Los Angeles, CA 90005

